



The Legal Urgency of Government Regulation and Supervision on Qibla Direction and Prayer Time Applications in Indonesia

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Citation (APA):

Ikbal, M., Izzuddin, A., Yanto, M.F., Arisafitri, N., (2025). The Legal Urgency of Government Regulation and Supervision on Qibla Direction and Prayer Time Applications in Indonesia. *International Journal Ihya' 'Ulum al-Din*, 27(2), 105-118. <https://doi.org/10.21580/ihya.27.2.30749>

Submitted: 17 Jun 2025

Revised: 15 Jul 2025

Accepted: 30 Dec 2025

Published: 31 Dec 2025

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Abstract: Prayer time and Qibla direction applications have become an integral part of daily religious practices for Muslims. However, with the increasing number of available applications on digital platforms, the accuracy of the information provided by these apps often varies, which can affect the validity of religious practices. This study aims to explore the urgency of government oversight over prayer time and Qibla direction applications to ensure their accuracy and reliability. The research methodology includes a literature review and qualitative analysis of various applications available on the Android platform. The findings indicate that many applications fail to meet the required accuracy standards, particularly concerning prayer times and Qibla direction, potentially misleading users in performing their religious duties. Therefore, this study highlights the importance of government oversight and regulation to ensure these applications adhere to proper guidelines and can be trusted. The author also recommends implementing policies to regulate the feasibility testing of these apps, including standardizing prayer time calculations and utilizing accurate geospatial data for Qibla direction. With stricter oversight, it is hoped that the applications used by Muslims will become more accurate and beneficial in supporting valid worship practices.

Keywords: Accuracy; Government oversight; Muslim worship; Prayer time applications; Regulation

Abstrak: Aplikasi waktu sholat dan arah kiblat kini menjadi bagian integral dari kehidupan umat Muslim dalam menjalankan ibadah sehari-hari. Namun, dengan semakin banyaknya aplikasi yang tersedia di platform digital, akurasi informasi yang disediakan oleh aplikasi-aplikasi tersebut sering kali bervariasi, yang dapat mempengaruhi kesahihan ibadah umat Muslim. Penelitian ini bertujuan untuk mengeksplorasi urgensi pengawasan aplikasi waktu sholat dan arah kiblat oleh

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pemerintah untuk memastikan akurasi dan keandalannya. Metode yang digunakan dalam penelitian ini adalah kajian literatur dan analisis kualitatif terhadap berbagai aplikasi yang tersedia di platform Android. Temuan penelitian menunjukkan bahwa banyak aplikasi yang tidak memenuhi standar akurasi yang diperlukan, terutama terkait dengan waktu sholat dan arah kiblat, yang berisiko menyesatkan pengguna dalam menjalankan ibadah. Oleh karena itu, penelitian ini menyoroti pentingnya pengawasan dan regulasi dari pemerintah untuk memastikan bahwa aplikasi-aplikasi ini mematuhi pedoman yang tepat dan dapat dipercaya. Penulis juga merekomendasikan adanya kebijakan yang mengatur uji kelayakan aplikasi tersebut, termasuk standarisasi penghitungan waktu sholat dan penggunaan data geospasial yang akurat untuk arah kiblat. Dengan pengawasan yang lebih ketat, diharapkan aplikasi-aplikasi yang digunakan oleh umat Muslim dapat lebih tepat dan bermanfaat dalam menunjang ibadah yang sah.

Kata Kunci: Akurasi; Aplikasi waktu sholat; Ibadah umat Muslim; Pengawasan pemerintah; Regulasi

Introduction

In recent years, the use of Qibla direction and prayer time applications on mobile devices has become increasingly common among Muslim communities, particularly in urban areas. Alongside technological advancements, smartphones have evolved not only into communication tools but also into essential instruments that facilitate the performance of daily religious practices. (Lestari & Hendy, 2018) Applications that provide information on the Qibla direction, prayer schedules, and even worship reminders have become an integral part of the spiritual routines of Muslims. Their use has expanded across various groups, ranging from students to young professionals, and especially among Muslims who are not familiar with the mathematical aspects of *ilmu falak*. Through these applications, users no longer need to worry about determining the Qibla direction or missing prayer times, even when they are in unfamiliar locations or engaged in dense daily activities. (Husain, 2021) This phenomenon demonstrates how technology can strengthen religious practices in a more accessible, practical, and efficient manner, while also enabling Muslims to maintain discipline in performing their acts of worship.

In Indonesia, several applications designed to assist Muslims in performing religious obligations such as Mawaqit, Salatku, Usholli, Muslim Assistant, and others—have gained remarkable popularity, with millions of users across the country. The following section presents the distribution of users for each of these applications:

No.	Application	Number of Users
1	Mawaqit	1 Million
2	Salatku	5 Milion
3	Usholli Versi 2.4.1	100.000
4	Muslim Assisten	100.000
5	Qur'an For Mobile	2+ Million
6	Al-Qur'an - Adzan Waktu Sholat	50.000

This trend indicates that an increasing number of Muslims in Indonesia rely on technology-based applications to facilitate religious practices, reflecting a high level of technological adoption in various aspects of religious life.

According to Izzuddin, an Indonesian expert in *ilmu falak*, the use of falak-based applications has become essential to ensure that Muslims can perform their religious obligations in a practical manner while remaining aligned with the requirements of Islamic law, particularly in determining prayer times and the Qibla direction. These applications enable users to obtain real-time prayer schedules, which greatly supports the proper observance of prescribed prayer times. Izzuddin also emphasizes that although such applications are highly beneficial, it remains important for users to pay attention to the validity of the data provided, especially those related to prayer time calculations and Qibla direction determination, which may be influenced by geographic location and differences in computational methods.

Although falak-based applications provide significant convenience for Muslims in determining prayer times and the Qibla direction, a growing social issue has emerged within the community. This issue concerns the discrepancies in prayer times displayed by different applications. Even a difference of just one minute can have substantial implications for the community. In addition, doubts regarding the accuracy of the Qibla direction offered by various applications also contribute to religious social concerns, especially in the absence of authorized personnel conducting direct measurements, which itself becomes a critical problem. Despite the applications' claims of precision, differences in technological capacity and device compatibility often lead to confusion, particularly in areas that lack access to professional measurement services. This raises concerns about potential inaccuracies in Qibla orientation, which may result in errors in worship an issue that is highly sensitive for the Muslim community.

Ensuring the accuracy and uniformity of data presented by falak-based applications requires a significant governmental role, particularly in regulating licensing and establishing clear frameworks for application oversight. The government needs to define explicit technical standards for the development of worship-related applications, including the verification of Qibla direction data and prayer times, in order to prevent confusion among Muslim users. With strict regulatory measures in place, the government can ensure that these applications deliver accurate and consistent information, enabling Muslims to perform their acts of worship correctly without questioning the reliability of the data provided. Moreover, governmental supervision of falak-based applications is essential to protect the public from potential technological misuse that may compromise religious practices, while maintaining the spiritual integrity of the Muslim community in this digital era. (Lesmana et al, 2016)

This paper, entitled ***“Urgency of Government Regulation and Supervision of Qibla Direction and Prayer Time Applications in Indonesia,”*** adopts a different approach from other related studies. Its primary focus is not limited to the technical aspects or the practical use of these applications, but rather on governmental regulations and policies that ensure the accuracy and uniformity of the data provided. This stands in contrast to previous studies, which generally emphasize accuracy testing of specific applications, such as the research conducted by Santi Okta Sriani and Laiyina Ukhti published in *Jurnal AstroIslamica*, titled *“Uji Akurasi Arah Kiblat Menggunakan Fitur Kompas Kiblat Pada Aplikasi Quran Kemenag Versi 2.1.4”* (Sriani & Ukhti, 2022). Other studies on application accuracy testing include Aliyah's *“Uji Akurasi Aplikasi “Islamic Times” Dalam Penentuan Arah Kiblat”* (Aliyah, 2021), as well as the work of Niswah Zahrotun titled *“Uji Akurasi Kompas Arah Kiblat dalam Aplikasi Android Digital Falak versi 2.0.8*

karya Ahmad Tholhah Ma'rif' (Niswah, 2018). All of these studies, in the author's view, focus on assessing application accuracy, which is fundamentally different from the present study that examines regulatory mechanisms and the active role of government oversight concerning widely used applications. This research highlights the importance of proactive governmental involvement in establishing standards and regulations to ensure that the applications used by Muslims in Indonesia do not generate uncertainty or confusion in the performance of religious practices.

This study employs a qualitative approach using two primary methods: a literature review and qualitative analysis of prayer time and Qibla direction applications available on the Android platform. The literature review was conducted to examine previous research related to the accuracy of religious applications, as well as relevant policies and regulations concerning government oversight of digital applications. These literature sources provide the theoretical foundation for understanding the urgency of governmental supervision, particularly with regard to the accuracy of information delivered by such applications. In addition, this study examines regulatory frameworks such as the Electronic Information and Transactions Law (UU ITE) and regulations related to personal data protection

Furthermore, a qualitative analysis was conducted by downloading and testing several prayer time and Qibla direction applications on the Android platform as the objects of this study. The accuracy assessment was carried out by comparing the prayer times and Qibla directions displayed by the applications with the official schedules issued by the Ministry of Religious Affairs of the Republic of Indonesia, which are based on ephemeris data and meteorological data from the Meteorology, Climatology, and Geophysics Agency (BMKG), as well as Qibla direction measurements obtained using a theodolite. The results of these tests were then analyzed to evaluate the accuracy of the information provided and to assess the urgency of government oversight, considering the potential impact that inaccurate applications may have on the religious practices of the Muslim community.

Results and Discussion

Astronomical Data Inaccuracies and Its Impact On Sharia Compliance

The growing number of digital platform companies developing falak-based applications in the digital era has provided significant convenience for Muslims, particularly in determining prayer times and the Qibla direction. Along with technological advancement, falak applications have become increasingly diverse and more accessible; however, this development also introduces challenges related to the accuracy and reliability of the information presented. Many applications are suspected of lacking proper scientific verification, creating the potential for errors in religious practice. Therefore, it is essential for both users and the government to ensure that applications distributed to the public (consumers) have undergone verification processes and possess appropriate licensing.

Given the wide variety of falak applications available on the market, users face a particular challenge in selecting a reliable source of information. Not all applications are developed with the same standards, resulting in notable differences in data presentation, user interface design, and the features offered. The variations among these applications can be observed in the following table:

Location	: Ngaliyan, Semarang
Coordinates	: -06 ⁰ 59' 56" (S) 110 ⁰ 19' 37" (E)
Data Collection Date	: 26 August 2024

The Legal Urgency of Government Regulation and Supervision on Qibla Direction

No.	Application	Prayer Time Data					Qibla Direction Qibla
		Subuh	Zuhur	Ashar	Maghrib	Isya	
1	Mawaqit	04.32	11.40	15.00	17.39	18.45	-65°
2	Salatku	04.26	11.43	15.02	17.41	18.51	294° (UTSB)
3	Usholli Versi 2.4.1	04.26	11.43	15.02	17.41	18.51	291.95° (UTSB)
4	Muslim Assisten	04.28	11.43	15.02	17.41	18.49	295° (UTSB)
5	Qur'an For Mobile	04.26	11.44	15.02	17.42	18.51	294.52° (UTSB)
6	Al-Qur'an – Adzan Waktu Sholat	04.26	11.44	15.03	17.41	18.51	294.52° (UTSB)

The differences in the data presented above may cause confusion among users, particularly those who lack sufficient background knowledge in *ilmu falak* or astronomy. Based on this concern, it is essential for users to seek recommendations from reliable sources and to review the ratings and evaluations of applications prior to downloading them. In addition, application developers are expected to demonstrate a commitment to improving product quality through regular updates and systematic data audits. Consequently, the selection of high-quality falak-based applications will assist users in performing religious practices accurately and in accordance with Islamic teachings

Furthermore, quality and accuracy standards constitute crucial factors in the development of falak-based applications. In the absence of clear and well-defined standards, such applications may exhibit significant variations in the accuracy of the data provided, particularly with regard to prayer times and Qibla direction. This condition may lead to confusion and uncertainty among users who rely on these applications to perform their religious practices. (Khumairok, 2023) It is therefore essential for the government or relevant authorities to implement regulatory and supervisory programs aimed at establishing quality standards that must be met by application developers. These standards should encompass scientific verification of the data employed, the use of accurate calculation methods, and periodic audits of applications distributed to the public. With the enforcement of stringent standards, users can place greater trust in the validity and accountability of the information provided. In conclusion, the implementation of quality and accuracy standards in falak-based applications is crucial to ensuring that such applications meet user needs and effectively support proper religious practices.

Potential data inaccuracies in falak-based or astronomical applications, including those related to Qibla direction, may have significant implications for Muslim worship practices. Errors in calculating celestial positions, prayer times, or Qibla orientation may arise from the use of inappropriate algorithms or inaccurate data. For instance, applications that fail to account for factors such as precise geographic coordinates and geomagnetic variations may provide unreliable information, leading to inaccuracies in worship scheduling. Furthermore, the lack of transparency regarding data sources employed by application developers may contribute to confusion among users. Therefore, it is essential for developers to ensure that their applications are based on valid and verifiable astronomical data. To prevent such errors, collaboration between astronomers (*ilmu falak* experts) and application developers is strongly recommended, so that the information presented including Qibla direction can achieve higher levels of accuracy and reliability.

The determination of the Qibla direction in the field continues to face various accuracy related challenges, particularly when communities rely on non-standardized methods. Several findings indicate that digital approaches such as satellite imagery and instruments based on solar shadow observations

are grounded in sound scientific principles; however, they may still produce directional deviations of several degrees if not applied in accordance with proper procedures. In a number of mosques and prayer rooms (*musholla*), deviations exceeding seven degrees have even been identified, demonstrating that inaccuracies in Qibla determination remain a tangible issue in various regions. This condition indicates that the process of determining the Qibla direction cannot be fully entrusted to digital devices or freely distributed applications without adequate systems of supervision and validation.

Compliance with religious principles is essential in the development and use of falak-based applications. Applications designed to assist Muslims in determining prayer times and Qibla direction must ensure that all information presented is fully aligned with Islamic teachings. Inconsistencies between application data and religious principles may lead to confusion and disrupt worship practices. Therefore, application developers are required to collaborate with religious scholars (*ilmu falak* experts) and astronomers to ensure that the content provided is both accurate and religiously appropriate. Adherence to religious principles not only enhances user trust but also contributes to the integrity of applications in effectively supporting proper religious practices. (Anwar et al., 2023)

User awareness constitutes one of the key factors in maximizing the benefits of falak-based applications. Many users may lack sufficient understanding of how these applications function or of the relevant astronomical principles, leading them to rely on the information provided without conducting independent verification. (Akraman et al., 2018) It is important for developers to provide appropriate educational guidance on how to use falak-based applications and to understand the information they deliver. Socialization and training programs may be conducted through various platforms, such as seminars, workshops, or easily accessible digital content. In addition, application developers can include clear and informative user guidelines within their applications. (Firmansyah et al., 2022) By enhancing digital literacy and users' understanding of falak-based applications, it is expected that they will be able to make more informed decisions and avoid errors in religious practices. In conclusion, user education and awareness not only facilitate more effective application usage but also contribute to increased trust in the information provided.

The findings of this study are consistent with several previous studies that have also revealed discrepancies in the accuracy of similar applications. For instance, a study conducted by Bangkit Riyanto found that many applications fail to adequately account for local factors, such as time zone differences or inaccuracies in Qibla direction calculations. (Riyanto, 2016) However, this study also contributes additional insights by highlighting the importance of government supervision. While many previous studies have primarily focused on the technical aspects of application accuracy, this research emphasizes the need for stronger policy measures by public authorities in supervising and regulating applications used by the wider community, particularly in the context of religious worship.

As a limitation, this study examines only a limited number of applications available on a specific platform and within a particular geographical area; therefore, the findings may not be fully generalizable to the global population of application users. In addition, government oversight of these applications remains relatively minimal, with limited regulations governing standards for prayer time calculation and Qibla direction determination. These limitations indicate substantial opportunities for further research, especially studies that explore how effective supervisory systems can be implemented. Given the critical

importance of accuracy in prayer times and Qibla direction for the proper performance of Muslim worship, this study recommends that the government take a more active role in developing policies and regulations governing applications that provide worship-related information.

The findings of a study by Muhammad Fajri Jufri and Rahma Amir, which compared methods for determining the Qibla direction using Software Accurate Times and Hisab Rashdul Qiblah Harian, provide significant reinforcement for the urgency of government regulation over falak-based applications in Indonesia. The study demonstrates that the process of Qibla determination requires rigorous scientific formulas and multi-layered verification to ensure that the results are fully accountable. When both modern methods were tested and compared with the classical *tongkat istiwa'* method, the results showed a consistent level of accuracy. However, the study also identified a one-minute time discrepancy between the digital method and the daily hisab calculation. Although this discrepancy remains astronomically acceptable, it indicates that digital applications are highly likely to produce varying results, particularly when developers do not adhere to proper falak-based standards. Furthermore, the study confirms that accurate methods consistently involve a combination of astronomical data, mathematical calculations, and validated observational instruments.

The fact that Software Accurate Times produces results consistent with the *tongkat istiwa'* method is attributable to the software being developed on the basis of scientifically grounded falak methodologies, demonstrating that the accuracy of digital applications is highly dependent on standardized formulas and reliable data. When an application fails to adopt such standards, the potential for inaccuracies significantly increases. This constitutes a fundamental reason for government involvement in establishing calculation guidelines, algorithmic standards, and verification mechanisms. The findings of the study are also consistent with the observed phenomenon of data discrepancies among various popular falak-based applications used by the public. If applications developed using rigorous scientific methodologies still display minor time differences, it is reasonable to assume that applications created without the involvement of falak experts may exhibit even greater discrepancies. This condition strengthens the argument that, in the absence of government regulation, the public will continue to rely on applications with inconsistent levels of accuracy. Ultimately, this situation may lead to confusion, debate, and the potential for widespread errors in religious practice. (Jufri & Amir, 2021)

Digital Vulnerabilities: Privacy and Consumer Protection in Religious Apps

Many Falak applications collect personal information, including users' location data, in order to provide more accurate services for determining prayer times and Qibla direction. However, in the absence of strict regulatory oversight, such sensitive data remain vulnerable to misuse and data breaches, potentially threatening the privacy rights of citizens as users of Falak applications. This concern is consistent with the findings of Simanjuntak (2024) in *Jurnal Esensi Hukum*, which emphasize that the enactment of Law Number 27 of 2022 concerning Personal Data Protection (PDP Law) constitutes a significant development within Indonesia's legal system. The law establishes a more comprehensive and centralized legal framework governing the rights of data subjects, the obligations of data controllers and data processors, as well as sanctions for personal data violations. Consequently, every digital service provider bears full legal responsibility as a data controller and is required to implement security encryption measures and obtain explicit user consent to ensure that specific data, such as user

geolocation information, are not misused.(Simanjuntak 2024). Some applications also lack clear privacy policies, leaving users uncertain about how their data are used or protected. Therefore, it is essential for application developers to implement sound security practices, including data encryption and transparency in the use of user information. (Budi et al., 2021) Users also need to be educated about the importance of protecting their privacy and selecting applications that meet high security standards. In conclusion, to ensure user protection, collaboration between application developers and the government is essential in establishing a regulatory framework that guarantees data security and privacy in the use of falak-based applications.

This situation further underscores the necessity of government regulation and supervision over applications used to determine Qibla direction and prayer times, which are now widely and easily accessible to the public. The use of digital devices, particularly Android-based applications, entails potential inaccuracies when such applications do not adhere to established scientific standards. Factors such as device sensor calibration, technological limitations, and users' proficiency in operating these tools significantly influence measurement outcomes. Therefore, governmental involvement in establishing national guidelines, conducting verification processes, and providing certification for falak-based applications is critically important. The existence of official standards would enable more accurate integration between digital methods and classical approaches, while also reducing the risk of errors that directly affect the correctness of Islamic worship orientation. Systematic supervision thus represents an urgent measure to safeguard the quality of religious practice and to provide certainty for the public in utilizing falak technology in a proper and responsible manner. (Budiwati, Firdaus, & Raharjo, 2022)

The prevention of fraud in the use of falak-based applications is a crucial aspect that must be addressed by both users and developers. In an increasingly advanced digital environment, there is a potential emergence of misleading falak-based applications, either through unfounded claims regarding their features or through the information they provide. Some applications may use names or logos similar to those of official applications in order to attract users, yet in practice they lack the necessary credibility. (Muhammad & Nugroho, 2021) Application developers must commit to providing accurate information and avoiding misleading marketing practices. In addition, supervision by the government and relevant authorities can serve as a safeguard to remove unaccountable applications from digital platforms. Through these measures, users are expected to be protected from fraud and to obtain correct and reliable information in support of their religious practices.

Application developers are responsible not only for the technical aspects of their applications but also for ensuring the transparency and accountability of the information provided. Clear documentation regarding data sources, processing methods, and the underlying calculation models is essential for enhancing user trust and enabling oversight of potential errors and ethical concerns within the application. The findings of Vyas (2025) indicate that explainable documentation constitutes an important component of ethical data engineering practices, as it enables users and stakeholders to understand the rationale underlying data processing decisions. (Vyas 2025) Developers also need to establish effective feedback mechanisms that allow users to report errors or issues they encounter. In this way, developers do not merely function as application providers but also as educators who assist users in understanding the proper use of the application. This responsibility is crucial for building user trust and ensuring that falak-based applications genuinely contribute to supporting proper religious practices.

This concern is further reinforced by reports in 2020 indicating that a similar application, Muslim Pro, was alleged to have experienced a personal data breach, through which user data were reportedly accessed and exploited by the United States military. (<https://katadata.co.id/digital/startup/64350542e7301/pernah-diduga-jual-data-ke-as-muslim-pro-gaet-34-9-juta-pengguna-ri>). In conclusion, this study affirms that supervision of prayer time and Qibla direction applications is essential to ensuring the proper quality of Muslim worship. Through improved oversight, the public can obtain more accurate and reliable information, which ultimately supports the smooth and valid performance of prayer and other religious practices. (Dewi, 2016) Therefore, the role of the government is crucial in regulating and supervising these applications to ensure their alignment with religious requirements and societal needs, as well as in enhancing the overall quality of religious life. (Desmon et al., 2022)

Formulating the Regulatory Framework for Religious App Standardization in Indonesia

This study finds that prayer time and Qibla direction applications circulating in the market exhibit varying levels of accuracy. Some applications provide information that is sufficiently accurate and aligned with astronomical and geographical calculations; however, other applications display significant discrepancies in prayer times and Qibla direction that may affect the performance of Muslim worship. Such inaccuracies have the potential to mislead users, particularly with regard to highly sensitive aspects such as prayer times, which directly influence the validity of worship. For example, if the prayer times displayed by an application are delayed or advanced relative to the actual times, Muslims may perform prayers outside their valid prescribed periods. Similarly, if an application indicates an incorrect Qibla direction, the worship performed may lose its validity.

These findings indicate that the issues identified are not merely technical in nature, but also encompass broader aspects that require serious attention. Therefore, they can be elaborated into several key urgencies as follows:

First, inaccuracies in astronomical data within religious applications may directly affect the accuracy of determining prayer times (such as daily prayers, the beginning of Ramadan, and Eid al-Fitr). In the context of Islamic law, such errors are not merely technical issues, but may also impact *sharia compliance*. Hence, there is a need for official standards to ensure that *hisab* data does not vary across different applications.

Second, the increasing use of digital religious applications raises concerns regarding personal data vulnerability and user security. Many applications collect location data, worship habits, and even user preferences without clear data protection standards. This creates an urgency for regulation in terms of consumer protection and digital privacy.

Third, there is currently no clear standardization or supervision of *falak*-based or religious applications. As a result, information fragmentation occurs each application may use different calculation methods without authoritative verification. This has the potential to cause confusion among the Muslim community.

Fourth, technological development is progressing faster than the legal framework governing it. Without proper regulation, a regulatory vacuum emerges that opens opportunities for misinformation, data misuse, and weak accountability of application developers.

One possible measure that can be taken is the establishment of national standards for prayer time and Qibla direction applications, requiring developers to comply with appropriate technical guidelines, such as prayer time calculations based on recognized scientific methods and the use of accurate geospatial data for determining the Qibla direction. Such supervision is important not only to protect the public from misleading information but also to ensure that the applications used by the community are trustworthy and provide maximum benefit in supporting religious practices. (Handoyo, 2023) In the future, further research is required to explore how stricter supervisory mechanisms can be implemented and to evaluate their impact on the quality of religious practices. Such evaluations are essential to ensure that adopted policies are genuinely effective in improving application accuracy and in supporting a better religious life for Muslims worldwide. In this context, collaboration among the government, application developers, and the community is crucial to creating a digital ecosystem that supports religious worship in a proper and accountable manner.

Verification and certification of *falak*-based applications are important to ensure that every application circulating in the market complies with established scientific standards and applicable Islamic legal requirements. Without such a mechanism, the public may use applications whose accuracy has not been properly tested, potentially leading to errors in the performance of religious practices. Therefore, an official institution with the authority to audit algorithms, data sources, and calculation methods used in these applications is necessary. It is recommended that the government or relevant religious authorities establish a certification system similar to a “quality assurance label” for *falak* applications that have passed accuracy and security testing.

Policy recommendations from the government are needed to fill the regulatory gap in the development and use of digital religious applications. Currently, there are no specific regulations governing aspects such as accuracy, data security, and developer accountability for religious-based applications. This condition creates risks of misinformation, data misuse, and weak user protection. Therefore, it is suggested that the government formulate comprehensive regulations covering technical standards, personal data protection, monitoring mechanisms, and sanctions for applications that fail to comply with the requirements, so that the digital religious ecosystem can operate safely, accurately, and responsibly.

At present, there is no specific and dedicated law regulating the development of religious-based applications, such as prayer time applications, qibla direction tools, or *falak* applications. Existing regulations are still general in nature and dispersed across several legal frameworks, such as the Electronic Information and Transactions Law (ITE Law), the Personal Data Protection Law, and regulations concerning Electronic System Operators (PSE). However, these regulations do not explicitly govern accuracy standards, scientific validation, or certification of *falak*-based religious applications. This situation indicates a regulatory gap that may lead to inconsistencies in standards, low developer accountability, and the risk of inaccurate information that could affect the validity of religious practices.

Conclusion

This study affirms that prayer time and Qibla direction applications play a highly important role in supporting the religious life of Muslim communities. Along with rapid technological advancement and the increasing reliance of society on digital devices, these applications have become one of the primary tools used to determine prayer times and Qibla direction. However, the findings of this study indicate that

many applications do not provide fully accurate information, which may potentially confuse users in performing their religious obligations. Therefore, supervision of these applications is an urgent matter and must be undertaken by the government to ensure the accuracy of the information presented.

Limitations in the accuracy of prayer time and Qibla direction applications—such as inconsistencies with official schedules issued by the Indonesian Ministry of Religious Affairs or errors in Qibla direction calculations—can disrupt the proper performance of Muslim worship. Inaccurate prayer times may result in prayers being performed late or even outside their valid periods, while incorrect Qibla direction may cause Muslims to pray in a direction that does not comply with religious requirements. Such errors not only affect the quality of worship but may also diminish public trust in digital applications used for daily religious practices.

In this context, the study highlights the necessity of government supervision, both in terms of regulation and the establishment of clear standards for such applications. The government can play a strategic role by formulating guidelines or regulations governing prayer time and Qibla direction applications, including the determination of scientifically valid methods for prayer time calculation and the use of accurate geospatial data for Qibla direction determination. Through such regulatory measures, it is expected that the applications used by Muslim communities will become more reliable and meet the required standards of accuracy.

In addition, this study finds that supervision of these applications remains suboptimal. Although several technical guidelines related to personal data management and information protection already exist, oversight of the accuracy of applications related to religious worship is still very limited. Therefore, it is important for the government to develop clearer and more structured policies regarding the supervision of digital applications, particularly those that concern religious interests and the worship practices of the community. More assertive policies and more intensive supervision would greatly assist in ensuring that applications used by the public genuinely support the quality of worship in a proper and valid manner.

Overall, this study emphasizes that supervision of prayer time and Qibla direction applications is critically important within the context of Muslim religious life in the digital era. The government, as the authority responsible for regulating and protecting public interests, must take a more active role in developing policies that govern the use of these applications, including aspects of security, information accuracy, and the protection of users' personal data. Through stricter supervision and clearer regulations, it is expected that these applications will become more reliable and provide greater benefits in supporting the accurate and valid performance of Muslim worship.

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