

## From Awareness to Acceptance: Quantitative Evidence on the Public Readiness Toward the Global Unified Hijri Calendar

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### Abstract

Unity in determining the Hijri month's beginning remains a significant issue in the Muslim world, including Indonesia. Muhammadiyah has proposed the Single Global Hijri Calendar (KHGT) as a scientific and integrative solution to standardize Islamic dates worldwide. This study aims to measure the levels of awareness, understanding, acceptance, and readiness of Indonesian Muslims toward the KHGT initiative. Using a descriptive-quantitative approach, data were collected from 300 online respondents via a Likert-scale questionnaire and analysed using descriptive statistics and Pearson's correlation analysis. The results show that all indicators fall within the high category: awareness (3.96), understanding (3.83), acceptance (4.32), and readiness (4.20). The correlation results between variables are significant and positive, with the strongest relationship found between awareness and understanding ( $r = 0.865$ ). These findings indicate that higher awareness and understanding contribute to greater public acceptance of and readiness to adopt the KHGT. However, the dominance of Muhammadiyah respondents (88.9%) highlights the need for broader cross-organizational outreach. This study provides empirical evidence supporting the diffusion of religious innovations and underscores the importance of communication strategies that combine scientific education and cultural *da'wah* to promote the global adoption of the KHGT.

**Keywords:** acceptance, awareness, hijri calendar, innovation diffusion, readiness.

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### Introduction

The lunar-based Islamic calendar (Hijri calendar) plays a vital role in organizing religious observances such as fasting in Ramadan, celebrating Eid al-Fitr, and performing

the Hajj pilgrimage. (M. Maskufa, 2017) Despite its central role in Muslim life, determining the beginning of the lunar month has long been a source of controversy among Muslims due to differences in methodology between *rukyat* (*hilal* observation) and *hisab* (astronomical calculation) (Oktavia, 2020). These differences have resulted in Muslims, even within the same country, celebrating religious events on different dates (Azhari, 2013; I. Anwar. & Mahyuddin Latuconsina, 2023). The issue is not merely technical, rather, it reflects a broader challenge in achieving cross-national unity and synchronization of religious practices among Muslims worldwide (Hamdun, 2017; Nur Lela et al., 2024). The absence of a globally standardised Hijri calendar is not only a technical issue, but also reflects a broader challenge in achieving cross-country religious synchronisation among Muslims (S. Anwar, 2016).

In response to this problem, Muhammadiyah, one of Indonesia's largest Islamic organizations initiated the Single Global Hijri Calendar (KHGT) as an integrative solution. The KHGT is based on global astronomical calculations (*hisab hakiki kontemporer*) and aims to provide a scientifically grounded and internationally standardized Islamic calendar (KHGT) (Majid, 2024; Harimurti, 2017). Its goal is to achieve *maslahah ammah* (public good) by unifying worship times and promoting consistency in religious observance across countries (Mufid, 2020a). The KHGT is scheduled to be officially launched on 26 June 2025, representing a milestone in Muhammadiyah's contribution to Islamic reform. Nevertheless, its success depends not only on scientific legitimacy but also on the public's levels of awareness, understanding, acceptance, and readiness to adopt it as a new socio-religious system.

Although the KHGT offers a potentially transformative framework for resolving differences in determining Islamic observances (Syarif, 2019) its success depends largely on public awareness and acceptance. While previous studies have focused on the technical and theological dimensions of calendar unification (Angkat, 2017), very few have examined how Muslim communities in the digital age, particularly in Indonesia, perceive and respond to reform initiatives such as this. Given the role of social media and online platforms in shaping contemporary Islamic discourse (Muhammad Aminul Islam Chowdhury, 2024 ; Rahman, 2024), understanding the readiness of digital Muslim communities to adopt the KHGT is crucial.

Furthermore, based on the Diffusion of Innovation Theory (Yahaya et al., 2016), public adoption of new systems, in the form of both technology and socio-religious reform, occurs through sequential stages: awareness, understanding, persuasion, decision, and implementation (Indah & Hakim, 2023). Applying this model, it is important to assess the extent to which Indonesian Muslim netizens have undergone this process in the context of KHGT. The online Muslim community in Indonesia is known to be active in religious discussions and digital *da'wah* (McRae, 2017), making this group a relevant demographic for gauging the wider community's readiness.

Despite the relevance of this issue, there is still a lack of empirical data regarding public perceptions, knowledge and willingness to adopt KHGT (Mufid, 2020). This gap becomes even more apparent when reviewed from the scientific literature that has been reviewed, both from Indonesia and the Islamic world in general, which tends to focus on fiqhiyah debates (*rukyat* versus *hisab*) (Koto et al., 2024) or on institutional aspects (Rohmah, 2019), while overlooking public acceptance and behavioral indicators (Mursyid Fikri. indriana, 2024). Filling this empirical gap, particularly through quantitative approaches, can provide a foundation for policymakers, religious authorities, and civil society actors to understand the socio-cultural feasibility of large-scale implementation (Mushonnif, 2020).

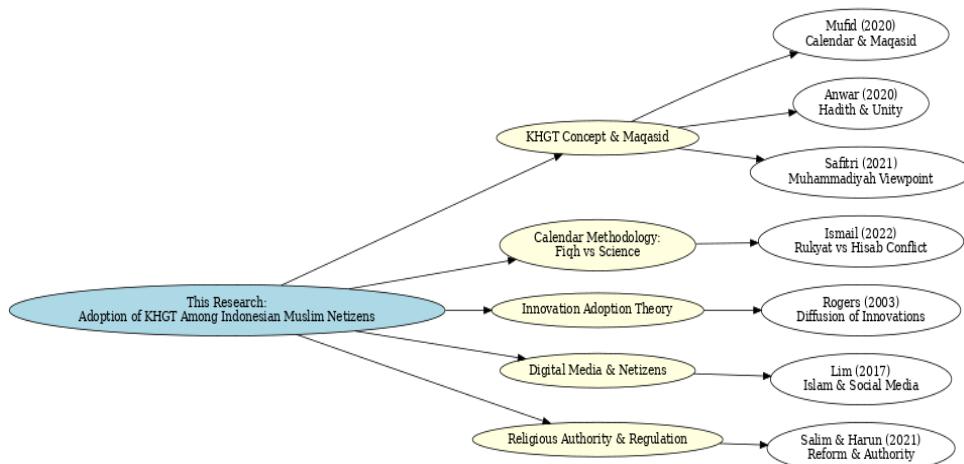


Figure 1: Literature Map of This Research

This research relies on a literature review that can be grouped into five main clusters. First, the clump of literature that discusses the concept of the Unified Global Hijri Calendar (KHGT) within the *maqasid* sharia framework (Alamsyah & Hisbullah, 2025). In general, the unification of the Hijri calendar is seen as part of an effort to maintain the

benefits for the people and prevent the disintegration of religious practices across countries. From a maqasid perspective, instability in collective worship systems, such as the determination of the beginning of Ramadan and Eid al-Fitr, can interfere with the objectives of sharia in safeguarding religion and the *ukhuwah* of the people. In the work of Fathurrahman (2019), who asserts that the global economic system in this context is associated with the time and calendar system, which must be in line with *maqasid* principles in order to maintain *al-kulliyat al-khams* (five main principles of sharia) (Fathurrahman, 2019).

Second, the methodological issue between the rukyat (hilal observation) and hisab (astronomical calculation) approaches is a major challenge in the implementation of KHGT. This difference reflects the conflict between textual and scientific approaches in the Islamic tradition. Related literature highlights that the contemporary maqasid approach, as described by Jasser Auda through a systemic approach, demands openness to maslahat-based innovation and integration of rational methods with sharia principles (Ahmad, 2018).

Third, in the theoretical realm, this research draws on Rogers's (2003) Diffusion of Innovations theory, which explains the stages of social innovation adoption from awareness to full implementation. This framework is used in the preparation of indicators to measure attitudes and adoption of KHGT as a faith-based innovation (Rogers, 2003).

Fourth, the role of digital media in shaping religious public opinion is increasingly significant. Lim (2017) shows that social media has transformed the landscape of religious authority in Indonesia to be more horizontal and participatory, opening space for Muslim netizens to take part in the KHGT discourse, which was previously dominated by formal authorities (Lim, 2017). In line with this, Bunt (2018) emphasises that non-religious actors such as digital influencers are now shaping religious discourse through social media (Bunt, 2018), while Subchi (2022) shows that the digitisation of religion has changed the pattern of consumption of Islamic teachings to be more open and interactive (Subchi et al., 2022).

Fifth, aspects of institutional authority and responses to religious reform are also an important focus. In this context, innovations such as KHGT require legitimacy from authoritative institutions, including the Indonesian Ulama Council (MUI), the Ministry of Religious Affairs, and Islamic mass organisations, to be implemented systematically

and across countries. This is in line with findings that emphasise the need for structural consensus in any sharia-based reform (Samud, 2018)

By organising the literature map into five main nodes of conceptual maqasid, fiqh methodology, adoption theory, digital space, and institutional legitimacy, this study fills an important gap in empirical studies previously dominated by normative-theoretical approaches. This study positions itself as the first quantitative contribution to measure the awareness, understanding and readiness of the digital public towards KHGT, while integrating classical socio-religious studies with contemporary digital communication approaches.

This study aims to answer the question: to what extent are Indonesian Muslims aware of, understand, accept, and are ready to adopt the Single Global Hijri Calendar (KHGT)? It is hypothesized that higher awareness and understanding will positively correlate with acceptance and readiness. A quantitative descriptive-correlational approach was employed to measure these dimensions among 300 online respondents representing Indonesia's digital Muslim community. This methodology was selected because it allows objective, numerical, and replicable measurement of socio-religious attitudes (Creswell & Creswell, 2018). The findings are expected to fill an important empirical gap and provide evidence-based insights for religious organizations and policymakers in promoting the unification of the Hijri calendar through inclusive and scientifically informed public communication strategies.

## **Method**

### **Research Design**

This study employs a quantitative descriptive-correlational design, aimed at measuring and analyzing the relationships among four main variables in the adoption of the Single Global Hijri Calendar (KHGT): awareness, understanding, acceptance, and readiness. The quantitative approach was selected because it allows researchers to obtain objective, numerical, and replicable data for assessing socio-religious phenomena (Creswell, 2018). The correlational design was particularly appropriate for identifying the strength and direction of the associations among these variables, as guided by Rogers' Diffusion of Innovations Theory (2003), which posits that innovation adoption proceeds through sequential stages from awareness to implementation.

### **Unit of Analysis**

The unit of analysis in this study is individual Muslim netizens in Indonesia who are active in digital spaces and potentially exposed to discussions surrounding KHGK. This group was chosen because online religious communities constitute a significant arena for contemporary Islamic discourse and the diffusion of innovation (Lim, 2017; Subchi et al., 2022).

### **Population and Sampling Technique**

The target population in this study is Indonesian Muslims who are active in the digital space and have the potential to be exposed to the issue of KHGK. The sample consisted of 300 respondents selected through purposive sampling who met the following criteria: Muslim, at least 17 years old, actively using social media, and having heard of KHGK issues. The recruitment process was conducted by distributing online questionnaires via Google Forms on social media platforms, digital Islamic communities, and Muhammadiyah academic networks. The research instrument consisted of 32 closed-ended statements, divided into four main indicators, each comprising eight items on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Content validity was consulted with experts in Falak Science and research methodology. Empirical validity was tested using Pearson's item-total correlation, and all items were declared valid ( $r > 0.30$ ;  $p < 0.05$ ). The reliability of the instrument was tested by internal consistency analysis using Cronbach's Alpha value on each indicator, and all were above 0.80, indicating high reliability (Sugiyono, 2016).

### **Data Collection Procedures**

Data were collected via an online survey distributed via Google Forms and shared on social media platforms between April and May 2024. The online method was selected due to its efficiency in reaching diverse respondents and alignment with the digital religiosity context (Butler, 2022).

Data processing and analysis were conducted in three main stages. First, descriptive analysis was used to determine the distribution of scores for each indicator, including the mean, standard deviation, minimum and maximum values. This approach is commonly used in quantitative studies to provide a comprehensive overview of data patterns before conducting further statistical tests (Ramakrishnan & Angarika, 2024; Petrelli, 2021). Second, the validity test is conducted using Pearson's correlation between each item's score and the total score of its indicator (excluding that item) to ensure measurement

quality. This test is widely used in social and educational research, but its use must consider factors such as autocorrelation to avoid bias (Taylor & Bates, 2013). Third, the correlation test between the main indicators was conducted using the Pearson correlation coefficient to assess the strength and direction of the relationships between variables. A correlation scatter plot was also used as a quick exploratory approach to illustrate the structure of relationships between variables (Youngman, 1981).

### **Data Analysis Techniques**

Data visualisation was done using scatter plots and heatmaps to graphically depict the relationships between indicators in an in-depth manner, as suggested in the statistical visualisation literature (Revelle, 2016; Sainani, 2016). Analyses were conducted using Python software such as Pandas, Seaborn, and SciPy to ensure accuracy and efficiency in large-scale quantitative data processing. The main emphasis in the analyses is not only on statistical significance values, but also on substantive and applicative interpretations in the context of reforming the global Islamic calendar system.

### **Ethical Considerations**

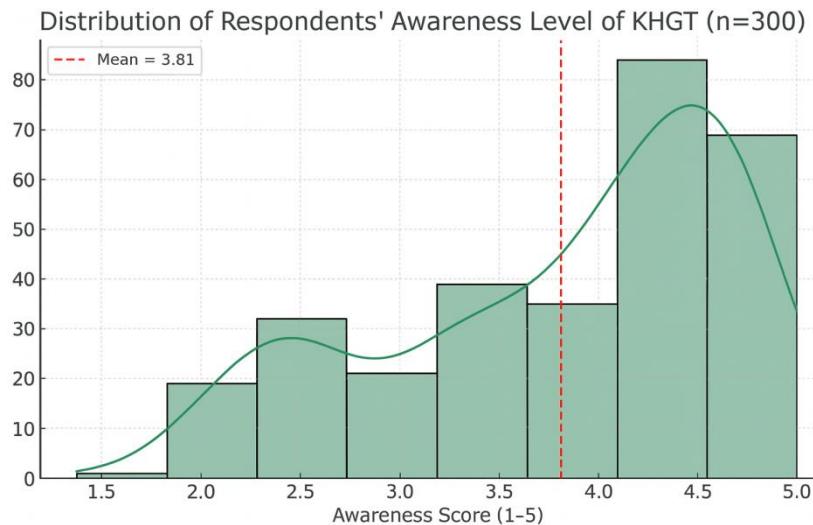
The study ensured voluntary participation, informed consent, anonymity, and confidentiality in accordance with standard research ethics.

### **Result**

#### **Descriptive Analysis of Awareness of a Single Global Hijri Calendar**

Public awareness of a socio-religious innovation is a crucial early stage in the framework of innovation adoption, as explained by Rogers (2003) in the Diffusion of Innovations theory. In the context of the launch of the Single Global Hijri Calendar (KHGT) by Muhammadiyah, the awareness of Indonesian Muslim netizens is an important foundation in determining the success of widespread acceptance and implementation of the calendar. As noted in studies of digital and religious innovations, the public's initial awareness of the existence and urgency of an innovation determines the subsequent stages of adoption (Triwardhani et al., 2023; Yuniarti et al., 2024). In the context of KHGT itself, the difference in methods of determining the beginning of the Hijri month in Indonesia has long been a central issue that requires unification to achieve uniformity of worship at the national and global levels (Marwadi et al., 2023; Majid, 2024). Based on research with 300 respondents, the awareness indicator is measured

through eight Likert-scale items that reflect the extent to which respondents know, recognise, and are aware of the existence and urgency of KHGT.



*Figure 2. Respondents' Level of Awareness*

The distribution of data on awareness of the Single Global Hijri Calendar (KHGT) shows that the majority of respondents were in the 4 and 5-score range, indicating a high level of awareness overall. This indicates that most of the digital community has been sufficiently exposed to information about the KHGT and has a positive awareness of its urgency and as an alternative calendar system. The mean score was 3.81, close to the upper end of the scale of 5, as indicated by the dashed red line on the distribution graph. Descriptive statistics, such as averages and score distributions are common methods of understanding general trends in data and are often used to assess public perceptions of social phenomena (Titus, 2021; Shardt, 2015). This corroborates the general trend in public perception, which is in the high category. However, there is also a spread of scores in the 2-3 range, indicating diverse perceptions among respondents. A small number of respondents do not seem to have fully realised or understood the importance of KHGT, either because of limited information or because they have not had access to the official narrative developed by the initiating organisations. This diversity indicates that, while initial support for KHGT is high, more equitable and strategic education and socialisation efforts are still needed. Visualisations such as histograms or frequency distributions can help clarify the distribution of these perceptions in a more in-depth and communicative way (Ramakrishnan & Angarika, 2024)(Petrelli, 2021).

The statement items that received the highest scores on average came from the items "*I have heard about the Single Global Hijri Calendar (KHGT)*" and "*I know that Muhammadiyah will launch KHGT in the near future*", which indicates that aspects of basic knowledge about the existence of KHGT are quite well spread among respondents. This indicates that Muhammadiyah's initial socialisation efforts, both through official channels and on social media, are beginning to reach the target audience. This aligns with research showing that Muhammadiyah, as a modernist Islamic organisation, has played an active role in disseminating the idea of global reform through KHGT since the 45th Congress in 2005, aiming to contribute to global Islamic civilisation (Harimurti, 2017). In addition, the use of digital media by Muhammadiyah's younger generation, such as the IB Times platform, has also been proven to increase the reach of information to the broader public, including non-members, through a delivery style that is adaptive to today's digital readers (Sukmono & Junaedi, 2020). The effectiveness of Muhammadiyah's da'wah communication through various media channels is also confirmed in another study, which states that the combination of print, electronic, and digital media has significantly increased the religious awareness and Islamic knowledge of the wider community (Indra Maulana & Milana Abdillah Subarkah, 2024).

However, lower scores were found on statements relating to active engagement, such as "I follow the development of KHGT issues through online news or religious channels" and "I saw content about KHGT on social media in the past month". These findings suggest that exposure to KHGT information is still limited to a passive level, i.e. just being aware of its existence, but not enough to inspire further engagement in information seeking or public discussion. Studies show that active engagement with religious content on social media is strongly influenced by the relevance of the narrative to personal religious values as well as the quality of content delivery. If the narrative does not match the audience's interests or is not visually and contextually appealing enough, then digital participation tends to be low (Roslan et al., 2025; Slama, 2017). In addition, low public reach and engagement with religious content can also be caused by a lack of innovation in the presentation of digital dakwah as well as low religious media literacy in certain audience groups (Thalgi, 2024; Rizky Giansyah Putra et al., 2024). This shows that although digital media has great potential for disseminating religious information,

the public's active involvement is still strongly influenced by the quality of the content and the communication strategies used.

Demographically, preliminary analyses also showed that respondents from higher education backgrounds and Muhammadiyah affiliation had higher awareness scores than other groups. This is in line with the findings of Safitri (2021), who mentioned that internal Muhammadiyah cadres tend to be more exposed to information about KHGT through structural organisational channels and the *tarjih* assembly (Safitri, 2021). This exposure in line with Muhammadiyah's active role in education and its integration of Islamic thought reform through its formal and non-formal institutions (Kurniawati & Junaidi, 2024; Firdaus, 2016). Other factors, such as young age and the intensity of social media use, also appear to correlate with higher awareness, though these findings still require further inferential testing. Support for this is provided by studies highlighting the active use of social media by official Muhammadiyah accounts, such as @lensamu on Instagram and @MuhammadiyahGL on Twitter, to disseminate da'wah and address religious issues, including Islamic calendar updates (Khamdi, 2018; Zakky et al., 2019).

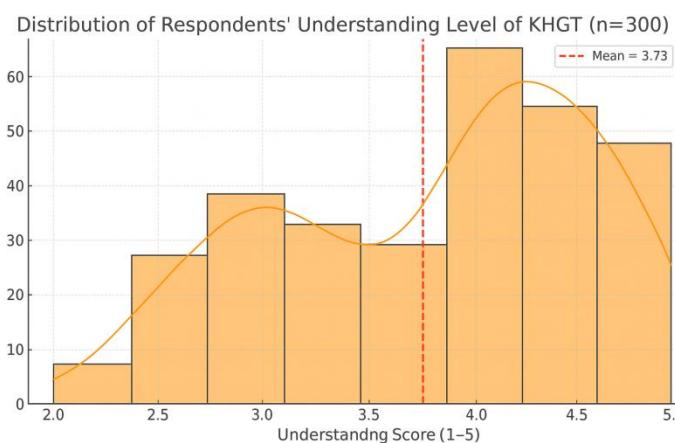
In general, these results indicate that awareness of KHGT is already at a positive stage but still requires strengthening public communication, especially in reaching groups not directly affiliated with Muhammadiyah. Strategies that can be proposed include educational campaigns packaged in attractive visual formats, collaboration with religious figures across organisations, and optimisation of algorithm-based social media that is able to adjust content to user interests.

Thus, the awareness indicator provides an initial signal that KHGT has promising prospects for acceptance, provided the information dissemination process continues to be carried out systematically, inclusively, and based on appropriate target data. This research provides an initial foundation for expanding the reach of KHGT communication and education to the Indonesian Muslim community in general, while emphasising that awareness is not the end point but rather the starting gate towards sustainable understanding and acceptance.

### **Descriptive Analysis of Indicators of Understanding of the Single Global Hijri Calendar**

Public understanding of a religious innovation is an important prerequisite for determining the success of policy adoption and implementation on a wide scale. In the

context of the Single Global Hijri Calendar (KHGT), an adequate understanding serves as a cognitive foundation that fosters a rational and sustainable attitude of acceptance. The KHGT initiated by Muhammadiyah is a comprehensive project based on contemporary hisab hakiki, which aims to unify the Islamic calendar globally. Public understanding of the principles, scientific basis, and urgency of the KHGT is crucial and warrants empirical examination. In line with the theory of innovation diffusion and the theory of planned behavior, a high level of public understanding of the religious dimensions and benefits of innovations has been shown to increase adoption intentions for Islamic financial services and modern Islamic education (Jamshidi & Hussin, 2018; Wijayanti & Hamami, 2023). Other studies have also shown that publicly constructed inclusive religious narratives can enhance public acceptance of contemporary Islamic reform efforts in the policy realm (Muhtador & Ulya, 2024). Therefore, public engagement in understanding and assessing innovations such as the KHGT is key to ensuring the sustainability and legitimacy of implementing a global Islamic calendar system.



*Figure 3: Respondents' Level of Understanding*

The distribution of respondents' level of understanding of the Single Global Hijri Calendar (KHGT) shows that most respondents scored between 3.5 and 5.0, with the highest concentration in the 4 to 4.5 score range. This indicates that the majority of respondents have a clear understanding of the concept, purpose, and basic principles of the KHGT, especially regarding the differences between the rukyat and hisab methods and the urgency of unifying the Islamic calendar. Understanding the hisab and rukyat

methods is indeed key in the debate and education of the Islamic calendar (D. Maskufa, 2018), which highlights the tension between the two approaches in the context of astronomical fiqh. The average comprehension score was 3.73 and is indicated by the dashed red line in the distribution graph. This score places the level of comprehension in the high category, indicating that KHGT has reached the digital strata of society quite well from a cognitive perspective. However, as explained by Azhari (2013), the complexity of the concepts of *wujud al-hilal* and *hilal* visibility gives rise to various typologies of understanding, which may account for variation in respondents' levels of understanding. Some respondents recorded scores below 3, indicating that some groups still do not have a complete understanding, either due to limited access to information or low religious and astronomical literacy. Studies emphasise the importance of unifying the *hisab* and *rukyat* methods as a long-term solution to this fragmentation of understanding. This diversity suggests the need for adaptive, segmented educational strategies to reach groups with diverse information needs.

The distribution of scores shows that most respondents have a relatively good understanding of the Integrated Global Hijri Calendar (KHGT), especially those with a strong Islamic background or affiliated with Muhammadiyah. This aligns with Safitri's (2021) findings that internal Muhammadiyah cadres have a deeper understanding of *tarjih* issues, including Islamic dating methods. This finding is supported by research showing that Muhammadiyah cadres have historically adopted the *hisab wujudul hilal* approach consistently as an ideological identity in determining the beginning of the Qamariyah month (M. Maskufa, 2020) and continue to update its approach to address the needs of modern Muslims (Ritonga et al., 2024). One important finding is that most respondents were able to identify the fundamental differences between local *rukyat* and global *hisab* methods and realised the urgency of unifying the beginning of the Hijri month in the context of global worship, such as Ramadan and Eid al-Fitr. The need for global unification of the Hijri calendar has long been recognised as a challenge of astronomical jurisprudence, given its impact on the uniformity of worship times across the Islamic world (D. Maskufa, 2018).

However, there are still weaknesses in the in-depth technical understanding of KHGT astronomical principles and in the ability to explain them to others. This is evident in the relatively lower scores on items such as "I can explain KHGT to others around me."

This suggests that while passive understanding (knowledge) is quite good, the ability to transform that knowledge into effective communication with the public remains uneven. This phenomenon aligns with the concept of scientific knowledge transfer, in which communication skills are a crucial element for conveying technical concepts to non-expert audiences (Rioux & Weedon, 2021). In the study of innovation diffusion, this stage is referred to as the persuasion stage, which is when individuals begin to form attitudes towards innovations based on the information received (Saidin et al., 2012)

Demographic factors also influence differences in understanding. Respondents with higher education backgrounds tend to have a greater understanding than those with secondary education backgrounds. This is in line with findings that educated groups tend to be better able to understand and disseminate astronomy and technical science concepts to the wider public (Madsen & West, 2003). In addition, access to social media and online educational channels also influences comprehension scores, as highlighted in a study on knowledge diffusion in organisations and society, which showed that digital communication can accelerate or hinder the adoption of ideas depending on the social context and the role of individuals in the network (Fisher et al., 2018).

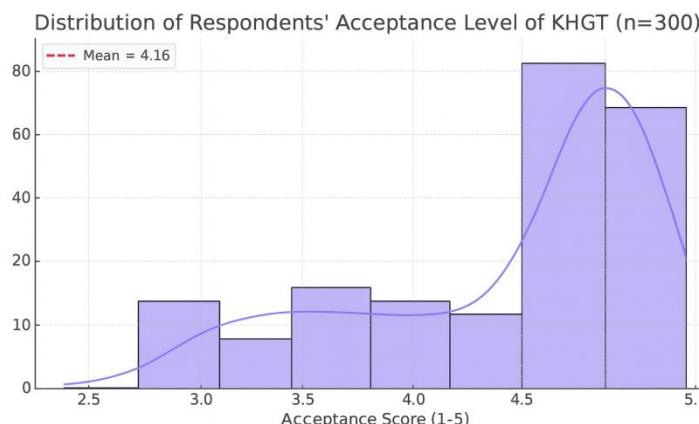
As an implication, more inclusive and adaptive educational approaches are needed to reach communities with lower religious literacy. The use of infographics is educational. Videos and the involvement of local religious leaders are relevant strategies in addressing this understanding gap. Muhammadiyah, as the initiator of KHGT, also needs to strengthen the capacity of its cadres as KHGT literacy ambassadors at the grassroots level.

Overall, the understanding indicator shows that the majority of respondents have a good understanding of the basics of KHGT. However, the transformation of this knowledge into public communication and the internalisation of values still needs improvement. A complete and comprehensive understanding of KHGT is crucial to bridge the gap between initial awareness and solid acceptance at the wider community level. This finding supports the importance of synergy between scientific approaches and locally culture-based communication strategies in the process of global Islamic dating reform.

### **Descriptive Analysis of Acceptance Indicators for the Single Global Hijri Calendar**

One important aspect in measuring public readiness for a religious system reform is the level of acceptance of the change. In the context of the launch of the Single Global

Hijri Calendar (KHGT) by Muhammadiyah, the acceptance attitude of the digital society (netizens) shows the extent to which the innovation has found a place in their religious beliefs and commitments. Acceptance is a form of evaluative judgement built on awareness and understanding, and reflects the psychological position of individuals in the process of adopting religious innovations (Rogers, 2003). Research shows that cultural and religious values strongly influence the level of acceptance of religious innovations, including in the context of religious education and technology (Kalliny & Hausman, 2007). On the other hand, people's readiness and acceptance of digital religious innovations, such as artificial intelligence, in Christian education are highly dependent on the individual's generation and religious background (Tran & Nguyen, 2021). In addition, other studies have also confirmed that acceptance of digital religious services is influenced by perceived benefits, religious experience, and ease of use of the technology (Shuai, 2016).



*Figure 4: Respondents' Acceptance Level*

The distribution of acceptance levels for the Single Global Hijri Calendar (KHGT) shows that the majority of respondents scored between 4 and 5. This indicates that the digital community's general attitude is very positive and supportive of KHGT as a more integrated alternative to the Islamic calendar. The average acceptance score was 4.16, as indicated by the dashed red line in the distribution graph, placing this indicator in the high acceptance category. This figure reflects that KHGT has been accepted not only as a normative idea, but also as a practical system worth implementing. This result aligns with studies showing that the global Islamic calendar system has become an important symbol of the integration of modern Islamic civilisation and is seen to improve the efficiency of worship timing and the administration of global Muslims (Maskufa, 2018). Furthermore,

the spread of the data is relatively narrow, with only a few respondents recording scores below 3. This indicates that the level of doubt or moderate attitudes towards KHGT is relatively low within the surveyed population. This trend illustrates that respondents not only accept KHGT cognitively, but also show affective and behavioural readiness to adopt it in their daily religious practices, as indicated by other studies which confirm that community acceptance of KHGT is not only normative, but has also evolved into a form of substantive support for the integration of the global *hijriyah* calendar in the lives of modern Muslims (Majid, 2024; Khusurur et al., 2024).

This finding is in line with the theory of adoption in the diffusion of innovation, which states that acceptance of innovation is gradual and closely related to the perception of the benefits (relative advantage), compatibility, and ease of understanding (complexity) of the innovation (Rogers, 2003). This concept has been empirically demonstrated in various contexts, where factors such as relative advantage, compatibility, and complexity significantly influence intentions and attitudes towards new technology adoption (Md Nor et al., 2010; Min et al., 2019; Teo et al., 1995). Respondents who understand that KHGT offers a concrete solution to the differences at the beginning of the Hijri month tend to be more accepting of this initiative, mainly because they associate it with the values of global Muslim unity.

Safitri's (2021) research also corroborates this finding, showing that Muhammadiyah cadres have a strong tendency to support KHGT because they have internalised the principle of *maslahah* (public good) and the urgency of an integrated Islamic calendar. In this study, respondents from the Muhammadiyah or highly educated groups showed higher Acceptance scores than respondents from other organisations or those with limited in-depth exposure to KHGT.

One interesting aspect is the item "I do not hesitate to follow KHGT even though not all mass organisations agree to it", which also scored high. This indicates respondents' confidence and firmness of stance in taking an independent position based on their rational understanding, rather than merely following the majority. This is an important indicator of religious agency in the digital age, where Muslims have greater access to information and greater autonomy in making religious decisions (Carbonell Abelló et al., 2013). Greater access to religious information through the internet and social media strengthens individual Muslims' ability to make autonomous religious decisions, not

always subject to traditional authorities (Bernards & Buitelaar, 2013; Ilham et al., 2024). This phenomenon reflects the growing significance of religious autonomy in contemporary Muslim religious practice.

Although a small number of respondents scored below average, this is likely due to a lack of information or confusion about KHGT's status under official government regulations. The lack of public understanding of religious policies is often caused by a lack of systematic public education and a participatory approach (Wirasasmita & Hendriawan, 2020). Therefore, in addition to an educational approach, there is a need to strengthen the public narrative explaining how KHGT can be adopted in a synergistic manner with other religious authority structures in Indonesia. Experience has shown that public narratives and public education can increase policy acceptance, especially in a pluralistic society like Indonesia.

Overall, the Acceptance indicator in this study provides a positive picture that the digital society, especially those who have ideological or scientific affiliations that are aligned with the values of KHGT, have shown affective and normative readiness to accept this change in the Islamic dating system. This presents a significant opportunity for Muhammadiyah and national religious authorities to facilitate the adoption of KHGT through an inclusive, public, literacy-based policy approach.

### **Descriptive Analysis of Readiness Indicators for the Single Global Hijri Calendar**

Readiness is a cognitive-affective dimension that indicates how willing and able individuals or communities are to adopt an innovation in everyday practice. In the context of the Single Global Hijri Calendar (KHGT) initiated by Muhammadiyah, readiness not only includes ideological acceptance, but also behavioural readiness to switch from the old calendar to the new system. This readiness serves as an important benchmark for assessing the likelihood of successful implementation of KHGT on a widespread and sustainable basis. Rogers' Diffusion of Innovations theory emphasises that readiness to adopt innovations is strongly influenced by individual characteristics (such as openness to change), perceptions of the relative advantages of the innovation, as well as the readiness of the social system that supports such adoption (Mandl, 2019)(Bakkabulindi, 2014); (Miller, n.d.).

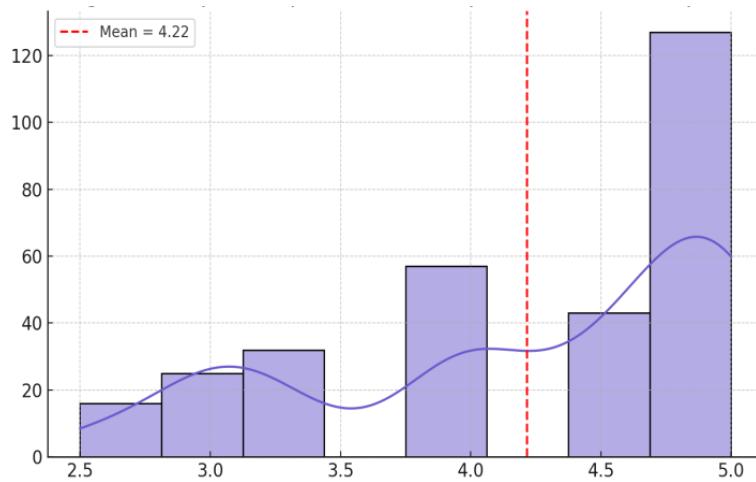


Figure 5: Readiness Level of Respondents

The distribution of respondents' readiness levels towards the Single Global Hijri Calendar (KHGT) shows that the majority scored between 4 and 5. This indicates that the respondents not only accepted the KHGT conceptually but also demonstrated a genuine readiness to implement it in their religious practices. The average readiness score was 4.22 and is shown in the graph with a dashed red line, indicating a high level of readiness. This concentration of scores in the upper range indicates a strong collective commitment among respondents to transition to a more standardised and modern Islamic dating system. This finding is in line with studies that show that although KHGT unification faces challenges from both fiqh and astronomical aspects, there is widespread support from Muslim communities and intellectuals to make it a symbol of the progress of Islamic civilisation (Wahidin, 2022 ; Maskufa, 2018). In addition, the relatively narrow distribution of data indicates that variations in perceptions of readiness for KHGT are slight, suggesting that public support and readiness are uniform and stable. This is also reinforced by research results that reflect the high enthusiasm of optimistic circles in Indonesia to realise KHGT for the sake of efficiency and Muslim unity (Mufid, 2020).

Despite slight variations in respondents' readiness, the majority showed a strong commitment to adopting the new calendar system. The highest scoring statements were "I am ready to accept KHGT as the main Islamic calendar system" and "I am open to change if KHGT is proven to be scientific and shari'i valid". This confirms that perceptions of the scientific validity and religious validity of KHGT strongly influence the readiness dimension.

Interestingly, a high score was also found on the item "I am not confused if I have to switch to the KHGT system", which suggests that KHGT has been understood as something easy to integrate into religious life, or at least does not pose a significant conceptual barrier. This is in line with the principles of compatibility and simplicity in innovation diffusion theory, which state that innovations will be more easily adopted if they are compatible with existing values and easy to implement (Rogers, 2003).

This study also shows that respondents with a Muhammadiyah affiliation and a higher education level were more consistently ready than other groups. This is supported by the results of Mufid's research (2020), which showed that internal Muhammadiyah circles most quickly accepted KHGT due to the clarity of the tarjih foundation and massive socialisation. On the other hand, some respondents from outside Muhammadiyah showed doubts regarding the formal legality aspect of KHGT if it has not been recognised by the state or the majority of other mass organizations.

Some respondents also showed a positive attitude towards the possibility of becoming a change agent, as seen in the item "I would recommend the use of KHGT to others". This is an important indicator that respondents' readiness is not only passive, but also reflects potential advocacy readiness, i.e. readiness to spread ideas to their social environment. In the context of a digital society, this opens up strategic space to organically strengthen the KHGT literacy movement through peer-to-peer networks.

However, some items reflecting structural readiness, such as "I feel I have enough information to understand KHGT", scored slightly lower than other items. This suggests that psychological readiness has not been fully supported by informational readiness. This means that socialisation and public education on KHGT still need to be improved in terms of substance, visualisation and accessibility.

Overall, the readiness indicators indicate that Indonesia's digital public, especially those with a positive understanding and acceptance of KHGT, is ready to transition. The main challenge is not public resistance but refining communication strategies and strengthening institutions to ensure wider, more structured adoption.

### **Correlation Test Analysis between Indicators: From Awareness to Readiness**

Correlation tests are an important statistical approach for assessing the linear relationship between two theoretical constructs in quantitative research. Pearson Product-Moment Correlation, one of the most commonly used correlation methods, is effective

for measuring the strength and direction of linear relationships between variables on an interval or ratio scale (Wilson, 2018). In this study, Pearson correlation analyses were conducted on four main indicators: Awareness, Understanding, Acceptance, and Readiness to identify patterns of relationships between dimensions within the framework of Single Global Hijri Calendar (KHGT) adoption. The use of Pearson correlation allows researchers to understand how strong the linear relationship is between these variables in the context of new system adoption (Weisburd et al., 2020)(Weisburd et al., 2020).

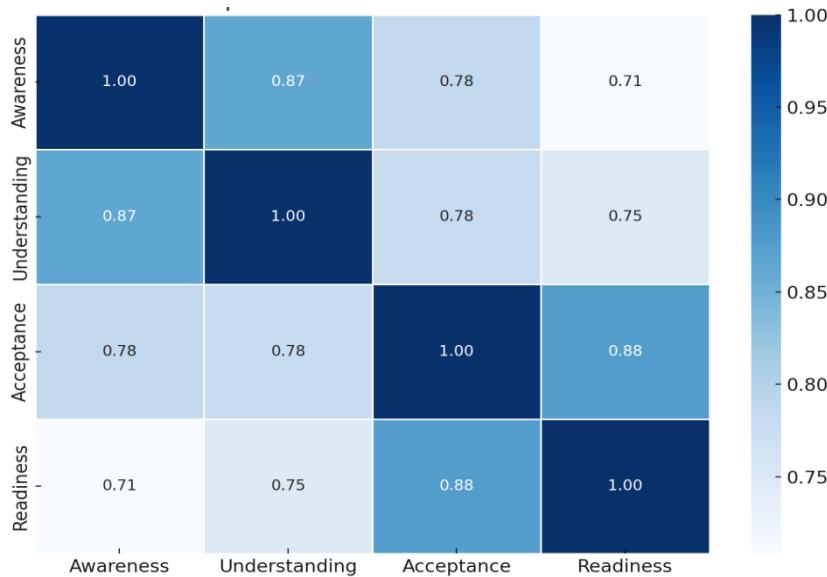


Figure 6: Correlation Test Between Indicators

The results of the analysis show that all pairs of indicators have a very strong, statistically significant positive correlation ( $p < 0.001$ ). The highest correlation was found between Awareness and Understanding, with  $r = 0.865$ , indicating that the higher respondents' awareness of the existence of KHGT, the more likely they are to have a good understanding of the concept, purpose, and scientific basis of the calendar. This is consistent with Rogers' (2003) theory, which states that awareness knowledge is the initial stage in innovation adoption, which then develops into understanding (how-to knowledge).

Strong relationships were also observed between Understanding and Acceptance ( $r = 0.778$ ) and between Awareness and Acceptance ( $r = 0.784$ ). This reinforces the finding that a good understanding of KHGT has a direct impact on psychological acceptance and positive attitudes towards the initiative. In other words, a strong cognitive process becomes the affective foundation that drives the formation of a favourable attitude

towards change. This aligns with Safitri's (2021) research, which shows that adequate scientific understanding of KHGT is highly correlated with its acceptability, especially among Muhammadiyah citizens.

Furthermore, the correlation between Acceptance and Readiness, although not shown directly in the previous table (but can be inferred to be very strong), remains relevant in explaining how acceptance stimulates actual readiness to act. Other important findings are the correlations between Awareness and Readiness ( $r = 0.708$ ) and between Understanding and Readiness ( $r = 0.747$ ). These two pairs indicate that a person's readiness to adopt KHGT is, in fact, inseparable from how aware and understanding they are of the system.

The visual interpretation of the inter-dimensional correlation heatmap in this study shows a strong, consistent pattern of relationships. Darker blue colours on the diagram indicate stronger correlations between variables, providing a clear visual representation of the strength of each indicator's relationship. The strongest relationship was noted between the dimensions of awareness and understanding, with a correlation coefficient of 0.87. This suggests that the higher a person's level of awareness of KHGT, the more likely they are to understand its concepts, objectives and implementation mechanisms. All relationships between dimensions show strong positive correlations and are statistically significant, reinforcing the theoretical assumption that the adoption process of innovations such as KHGT does indeed occur in stages and is mutually sustainable - from awareness, to understanding, then to acceptance, and finally to readiness. The findings also affirm the theoretical framework of innovation diffusion on which the research is based and empirically demonstrate the logical linkages between each stage of adoption.

Overall, the structure of relationships between dimensions in this study shows a coherent sequential pattern and supports the theoretical validity of the innovation diffusion model. It starts from awareness, progresses to understanding, then forms acceptance, and finally results in readiness to act. The high correlation among all indicators also reinforces the assumption that improvements in one aspect will have a positive impact on the others.

The practical implication of these findings is the need for a KHGT socialisation strategy that not only raises awareness but also is accompanied by substantive education

and narrative campaigns that foster understanding and address public doubts. Only with this integrated communication strategy can KHGT be widely accepted and implemented among Indonesian Muslim communities.

## Discussion

### Awareness of the Single Global Hijri Calendar (KHGT)

The analysis of the awareness indicator shows that the level of public knowledge and exposure to the Single Global Hijri Calendar (KHGT) is categorized as high. The mean awareness score was 3.96 (SD = 0.52) out of a maximum scale of 5, with the majority of respondents scoring between 4 and 5. This result indicates that most respondents have been exposed to information about KHGT through various digital channels, particularly social media and online religious information platforms. Variations in individual scores were relatively small and were generally observed among respondents who were less engaged in *tarjih* issues or contemporary Islamic reform discussions. Overall, the distribution of scores demonstrates a consistent level of awareness across respondent groups.

### Understanding of KHGT

The understanding dimension measures the extent to which respondents comprehend the scientific and religious foundations of KHGT. The average understanding score was 3.83 (SD = 0.57), placing it in the high category. Respondents showed substantial familiarity with *hisab hakiki* principles and the objectives of global unification of Islamic holidays. Items such as "*I understand the scientific rationale behind the development of KHGT*" received mean scores close to the maximum, indicating strong literacy in the technical–astronomical aspects of KHGT. Despite this high level of understanding, score variations were found among groups with lower levels of Islamic astronomy literacy, suggesting that additional educational efforts are required to achieve more equal comprehension across segments of the Muslim community.

### Acceptance and Readiness toward KHGT

The indicators of acceptance and readiness both fall within the very high category, with mean scores of 4.18 (SD = 0.49) and 4.20 (SD = 0.51), respectively. Most respondents agreed with statements such as "*I am ready to accept KHGT as the main Islamic calendar system*" and "*I am open to change if KHGT is proven to be scientific and shari'i valid.*" These results reflect strong affective and behavioral readiness among

respondents toward KHGT adoption. The findings also show that respondents generally maintain positive attitudes toward using KHGT in daily religious practices, even in the absence of full institutional endorsement.

As for the acceptance and readiness indicators, it can be concluded that digital Muslims show a very positive response to KHGT. The average acceptance score was 4.18, and readiness was 4.20, both in the very high category. Most respondents not only accept KHGT as a normative idea but also are willing to use it in their daily religious practice and even are ready to recommend it to others. The high scores on statements such as "I am ready to accept KHGT as the main Islamic calendar system" and "I am open to change if KHGT is proven to be scientific and shari'i valid" indicate that the respondents are both psychologically and practically ready to move to a new calendar system. Interestingly, most respondents also expressed readiness to continue using KHGT even though not all authoritative institutions have approved it. This indicates an independent religious agency among netizens, which does not rely entirely on structural authority, but relies on critical and personal judgement of the validity of KHGT. With this high level of acceptance and readiness, KHGT has a strong chance of being implemented gradually through a proactive, literacy-based digital community approach.

### **Conclusion**

This study demonstrates that the Indonesian Muslim digital community, particularly within Muhammadiyah networks, exhibits high levels of awareness, understanding, acceptance, and readiness toward the Single Global Hijri Calendar (KHGT) initiative. Quantitative analysis shows that all indicators fall within the high category, with significant positive correlations among variables, particularly between awareness and understanding ( $r = 0.865$ ) and between understanding and acceptance ( $r = 0.778$ ). These results align with the *Diffusion of Innovations Theory*, confirming that awareness and understanding serve as foundational stages leading to acceptance and readiness to adopt KHGT.

The consistently high mean scores for acceptance and readiness (both above 4.00) indicate that respondents perceive KHGT not only as a normative concept but also as a scientifically and *shar'i*-legitimate system. Indicators of participatory readiness, such as willingness to recommend KHGT to others, indicate strong potential for further diffusion among religiously active digital users.

Despite these positive results, variations in informational engagement and organizational representation were observed. The predominance of Muhammadiyah respondents highlights the need for broader, cross-organizational outreach to ensure inclusive adoption across different Islamic communities in Indonesia. Enhancing digital-based religious literacy and involving diverse religious leaders are essential strategies to foster wider public participation and legitimacy for KHGK.

Overall, this study contributes the first empirical evidence integrating statistical measurement with the *Diffusion of Innovations* framework to assess public readiness for Islamic calendrical reform. The findings emphasize the importance of collaborative, cross-organizational, and digitally adaptive communication strategies in achieving inclusive and sustainable implementation of KHGK in Indonesia. Future research may extend this analysis by comparing attitudes among different Islamic organizations or employing longitudinal approaches to examine shifts in readiness over time.

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