

TREND TRANSFORMATION TECHNOLOGY THROUGH MAHA DATA, IoT , AND ARTIFICIAL INTELLIGENCE IN DAKWAH MANAGEMENT

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Abstract

The integration of big data, the Internet of Things (IoT), and artificial intelligence (AI) in da'wah management provides a modern and efficient approach to disseminating religious messages . Big data is used to collect and analyze data from various sources , including social media and digital da'wah platforms , to understand the needs of congregants and their behavioral trends . IoT automaton the management of mosque facilities , creating comfort for congregants through smart devices that adjust the physical environment based on the number of attendees . Meanwhile , AI enhances interaction through chatbot and personalized content recommendations . These three technology interact to create a relevant and immersive preaching experience , ultimately increasing congregational attendance at mosques . This research demonstrates that the application of advanced technology can strengthen congregational engagement and make preaching management more effective .

Keyword: *Technology Integration Da'wah Management Congregational Engagement*

Abstract

Big data integration , Internet of Things (IoT), and artificial intelligence (AI) in dawah management offer a modern and efficient approach to spreading religious messages. Big data is used to collect and analyze data from various sources, including social media and digital dawah platforms, to understand the needs of the congregation and their behavioral trends. IoT automates the management of mosque facilities, creating convenience for the congregation through smart devices that organize the physical environment based on the number of worshippers. Meanwhile, AI enhances interaction through chatbots and personalized content recommendations . These three technologies interact with each other to create a relevant and immersive dawah experience, which ultimately increases congregational attendance at the mosque. This study shows that the application of advanced technologies can strengthen congregational engagement and make dawah management more effective.

Keywords: *Integration of Technology, Management of Da'wah, Congregation Involvement*

INTRODUCTION

Transformation Technology through great data, IoT , And intelligence artificial (AI) has bring significant changes in various sectors, including in the management of da'wah. The use of big data, IoT , and AI for da'wah management can expand reach, increase efficiency, and provide personalization in the delivery of da'wah. The da'wah process starts from planning (P), organizing (O), directing (A), and supervise (C) da'wah activities will be more optimal through the use of AI. Process This da'wah management is usually abbreviated to POAC.

Currently, the use of big data-based technology, IoT , and AI is one of the strategies to expand reach, increase efficiency, simplify management processes, and personalize in delivering da'wah messages. The use of this technology not only changes the way da'is and da'wah institutions interact with the congregation, but also how religious organizations are managed more effectively.

This trend shows that preaching is no longer limited to conventional methods such as lectures and print media but is increasingly utilizing technology to reach a wider audience . wide with method Which more efficient. Wrong One implementation main technology great data, IoT , and AI in da'wah management is the automation of administrative tasks. The tasks of managing congregation data, scheduling activities, and ensuring consistent communication between members. Big data, IoT , and AI-based systems help automate these tasks such as sending reminder time prayer , study, maintenance facility, management charity And other religious activities such as several large mosques in the Middle East (Al-Rahdi, 2022).

By using *machine techniques learning and big data analysis* , AI can analyze audience preferences based on their usage data on social media and other digital platforms using algorithms (Shaikh , 2021). From this analysis, the message of da'wah can be adjusted specific to your interests and spiritual needs audience so that preaching become more personal. Someone who frequently accesses content about fasting will more often see posts or videos related to that worship. Personalization like this will increase the effectiveness of delivering da'wah and ensure that religious

messages are received by people who need them and increase *engagement* .

Big data also plays an important role in the transformation of da'wah. Through big data analysis, da'wah institutions can better understand the spiritual and demographic needs of their followers. congregation, congregation behavior, and da'wah preferences. Mosques or da'wah institutions can analyze the pattern of congregation attendance at religious events or identify the most popular study themes. This information can be used to design more effective, relevant, fast, and accurate da'wah programs (Mansoor , 2020).

Another trend that is gaining popularity in da'wah is the use of *chatbots*. AI based For give consultation religious. *Chatbot* This can trained with data from sources such as the Quran, Hadith, and fatwas from scholars. In this context, *chatbots* can answer general questions about Islamic laws, worship, or morals quickly and easily (Ahmed, 2020). This allows scholars to focus on more complex questions, while *the chatbot* handle more general and routine questions. However, the accuracy and sharia compliance of *the chatbot's answers* must always be supervised by religious experts. Seeing the existing developments, the potential for collaboration between AI and da'wah in the future is very large (El-Amin, 2023).

To front, trend implementation AI in management preaching will the more develop through stronger collaboration between missionary institutions and technology experts. Missionary institutions in various countries have begun to collaborate with technology companies to develop more sophisticated AI systems that are in accordance with the spiritual needs of Muslims (El-Amin, 2022). In addition, missionary institutions can also collaborate with universities or research institutions to develop more accurate algorithms in conveying missionary messages and managing congregation data. Thus, this study will examine the model for implementing digital transformation through big data, IoT , and AI in da'wah management.

THEORETICAL REVIEW

Management Da'wah

Preaching management is a structured process that aims to plan, organize, direct, And supervise activity preaching For reach objective certain aspects in the spread of Islamic teachings. Studies from various journals show that da'wah management does not only involve delivering religious messages, but also administrative aspects, leadership, and the use of technology to optimize the effectiveness of da'wah.

In Fahmi's research (2019), da'wah management is defined as "the management of human, financial, and technological resources used to convey Islamic messages effectively." This definition emphasizes the importance of a holistic approach that involves careful planning, structured organization in da'wah management, and a systematic approach related to technological developments (Alwi, 2020).

Hasan (2020) added that da'wah management is also closely related to the leadership approach in da'wah organizations. A da'wah leader must be able to motivate his team, build a clear vision, and create the right strategy to achieve da'wah goals. In this context, da'wah management includes leadership skills to direct and inspire da'wah in carrying out their duties. The role of the leader is very crucial in maintaining the quality and direction of da'wah.

Furthermore, Rahman (2021) explains that in the digital era, da'wah management must adapt to technological developments. Digital transformation forces da'wah organizations to integrate technology into the management process, such as using social media, video platforms, and mobile applications to expand the reach of da'wah. This transformation demands more flexible and adaptive management to technological changes. Thus, da'wah management is no longer only traditional, but also includes the use of modern digital tools.

Ali (2019) highlights the importance of evaluation in da'wah management. Measuring da'wah performance must be an integral part of da'wah management. This

means that da'wah organizations must continuously assess the success of the program through data analysis and feedback from the congregation. This show that management preaching Also covers ability For do systematic and continuous performance evaluation to improve the quality of preaching.

Overall, the synthesis of these six journals shows that da'wah management involves a complex and multidimensional process. The aspects involved include strategic planning, leadership, use of technology, performance evaluation, and collaboration. With the development of technology and the increasing demands of modern society, da'wah management increasingly requires an adaptive, innovative, and data-based approach to remain relevant and effective in conveying the message of Islam in the digital era.

Models Management Da'wah

In the literature on da'wah management, several models are applied to manage da'wah activities. One of the models that is often used is the task-based management model . Da'wah is managed based on managerial functions including planning, organizing, implementing, and supervising. This model prioritizes coordination between da'wah teams, and efficient resource management. Fahmi (2019) explains that task-based management focuses on efficiency and effectiveness so that the results are more measurable. Implementation

his preaching by placing individuals based on certain competencies in appropriate positions as individuals responsible for specific tasks.

Structured task division can improve the professionalism of da'wah in managing human and financial resources. This model emphasizes the importance of managerial skills for da'wah leaders in order to monitor performance and facilitate coordination between team members. The implementation of this model is often seen in formal da'wah institutions that have a clear organizational hierarchy.

Another model that is quite prominent is the community-based da'wah model . The community plays an active role in the da'wah process. In this model, the da'i or da'wah leader acts as a facilitator. Meanwhile, community members play a role in

designing and implementing da'wah programs that are relevant to the needs and characteristics of a particular community or society. This model emphasizes collaboration between various elements in the community such as local religious figures, social institutions, and the government.

Hasan (2020a) stated that the community-based da'wah model is more effective because its approach is direct and responsive to social situations. The community is actively involved in developing and implementing da'wah programs. This model is commonly used to reach communities with diverse socio-cultural backgrounds. Its personal and contextual approach is more effective than the general approach. Better adaptation to social dynamics makes this model more responsive and relevant to reality. local.

Another model that is also used is the digital preaching model by integrating information technology with social media in the preaching process. Through this model, preachers can spread message preaching through platform digital like media social, application preaching, And website to reach a wider audience (Syafii, 2020). With the internet, preaching is no longer limited to mosques or physical meetings, but can be accessed anytime and anywhere.

In digital preaching, the preacher not only plays a role as a message deliverer, but also as content. creators who must understand social media algorithms, digital trends, and audience preferences . Dakwah digital opens opportunity big For personalization messages and interactions that more intense with the congregation through online media (Nurul, 2022). However, this model also presents challenges related to content validity, information security, and the potential for spreading teachings that are not in accordance with Islamic principles.

Other models of da'wah are the collaboration-based da'wah management model and the education-based da'wah model. The collaboration-based model involves cooperation. between local and international da'wah organizations , to maximize resources and expand the reach of da'wah. The collaborative model allows da'wah organizations to share knowledge, technology, and experience, resulting in a

more innovative and effective da'wah approach (Ali, 2019). For example, collaboration between da'wah institutions and universities or technology companies can produce new innovations in methods of spreading Islamic teachings. Collaboration can also include partnerships with social and humanitarian organizations to integrate da'wah into social activities, such as humanitarian aid, education, and health. This approach not only broadens the impact of da'wah, but also enhances the image of Islam as a religion that cares about the welfare of its people.

The education-based da'wah model emphasizes Islamic teaching through formal educational institutions, such as schools, Islamic boarding schools, and universities. This model places education as the main means of spreading Islamic teachings, with a structured and measurable approach through a well-designed curriculum and syllabus (Rahman (2021)). This model is generally applied in Islamic educational institutions where da'wah materials are taught systematically. In addition, this model also utilizes training and workshops to improve religious understanding among the general public. This training is often combined with digital technology, such as e-learning or webinars, to reach a wider audience.

Transformation Digital in Management Da'wah

Digital transformation in da'wah management refers to the use of digital technology in the entire process of preaching starting from planning, organizing, directing, and supervising. Digital transformation includes big data, IoT, and AI.

Maha Data has great potential in da'wah management to analyze the behavior patterns of the people and da'wah trends in more depth. In his study, Aziz et al. (2021) stated that big data can be used to understand the behavior of the da'wah audience based on interactions on social media, preferences for religious content, and patterns of participation in religious activities. The use of big data allows the spread of da'wah to be more strategic and targeted based on real-time and accurate data. With big data analysis, da'wah institutions can design more relevant programs according to the needs and interests of the congregation. In addition, big data can also identify audience segments that have not been reached, thus allowing for

diversification of da'wah methods. Big data is important for responding to changing trends in society, and assist in the process of making more appropriate decisions to design innovative and adaptive preaching strategies.

In addition to planning, big data also plays a role in evaluating the effectiveness of da'wah programs. Zainuddin & Maulana (2021) stated that big data provides deeper insight into how da'wah messages are received by the audience, including patterns of interaction and feedback received. This data can be used to measure how far the da'wah content reaches its target audience and whether there is a need for changes or improvements in the da'wah method. The use of big data in evaluation also allows monitoring of religious trends that emerge in society, both nationally and globally. Thus, da'wah institutions can make timely adjustments to da'wah content to keep up with ongoing socio-cultural changes.

Internet of Things (IoT) plays a role in integrating various devices and technologies that facilitate access to da'wah information automatically and in real time . Rahman & Syamsul (2019) underline the importance of IoT in disseminating da'wah material widely through connected devices such as smart phones. devices , digital screens in mosques, and preaching applications, even when the preacher is not physically present. IoT also contributes to providing location-based religious services, such as directing worshippers to the nearest mosque or providing prayer time reminders. The implementation of IoT will enhance the interactive experience of worshippers, in where they can connect with sensor-based or mobile device-based preaching content . IoT can provide more personal and contextual interactions in preaching, so that the congregation feels more involved (Hamid et et al. , 2021).

IoT also plays an important role in monitoring da'wah programs in real time . Hidayatullah (2022) explains that by using IoT , da'wah institutions can track the number of congregations present at mosques or da'wah events through digital sensors, as well as monitor the effectiveness of the use of da'wah infrastructure such as audio-visual systems. This helps in carrying out quality control on the implementation of

da'wah activities, and ensuring that da'wah facilities are used optimally.

Artificial intelligence (AI) provides a new dimension in the spread of da'wah, especially in personalization content preaching And automation management information. Nasreddin et a. (2022) stated that AI is able to identify individual preferences regarding religious content, and automatically provide appropriate preaching recommendations. AI is also used to analyze audience feedback , so that preaching institutions can more quickly adjust content according to the needs of the community. Furthermore, AI can also be used to develop chatbot preaching Which capable answer questions religious automatically and in real- time . This allows faster access to preaching without time constraints, so that people can get answers at any time.

Intelligence artificial Also play a role in optimize planning And strategy preaching

long term. By using data analyzed by AI, Islamic missionary institutions can make predictions about future religious trends. and prepare the program preaching relevant. Fadhil (2020) stated that AI enables the preparation of more adaptive preaching plans, based on automatically analyzed congregational behavioral data. AI can also help automate administrative tasks that often burden preaching institutions, such as managing donations or managing finances.

Implementation Transformation Digital in Management Da'wah

Implementation Maha data in Mosque Prophet's Mosque, Medina (Arab Saudi) as a da'wah management for monitor amount congregation And analyze behavior visitors. Tool Which used is *Google Analytics* and *Apache Hadoop* . *Google Analytics* to monitor digital interactions and *Apache Hadoop* as a big data storage and processing platform. Al-Harbi (2021) explains that with the use of big data, the management of the Nabawi Mosque is able to better manage the capacity of the congregation, including predicting peak visits by the congregation and optimizing services.

Use IoT For Da'wah in Indonesia (Mosque) Liberty, Jakarta) For support digital preaching and management of mosque facilities. *IoT system Sensors* and *IoT-enabled screens* . *IoT Sensors* used For monitor temperature, lighting, And security in mosque, as well as *IoT - enabled screens* used For display content preaching in a way automatic (Husni et al. , 2020). In Arab Saudi, technology AI used For develop chatbot named *Islamic Bot*. *Islamic Bot* will provide automatic answers to religious questions from the people. This chatbot uses *Natural Language Processing (NLP)* from *Google AI* to understand and respond to various questions about Islamic teachings (Fahad & Al-Qurashi , 2021).

The Islamic Research Center in Malaysia uses a combination of big data and AI to analyze da'wah trends and design more effective communication strategies. Tools like *IBM Watson* used to analyze text data from social media. *BigML* used to predict response audience towards certain preaching content (Rahman et et al. , 2022).

The use of big data and AI in the Islamic Propagation Center, Turkey as the Islamic Propagation Center utilizes big data technology to monitor religious trends on social media and uses AI to customize their propagation content. Tools such as *Tableau* and *SAS Analytics* used for data visualization, while *TensorFlow* used to predict congregation interaction patterns (Kilic & Yildirim , 2020).

Prospects Transformation Digital in Management Da'wah

Digital transformation in da'wah management has very positive prospects for the future. With the increasing use of the internet and information technology among Muslims, the potential for digital da'wah will continue to grow. Ali (2022) stated that da'wah in the future will increasingly depend on technology that can reach a global audience . With the ever-growing digital infrastructure, da'wah can be carried out in real- time and on a large scale without being limited by geographic location. Technologies such as virtual reality (VR) even have the potential to provide

experience interactive in religious teaching, such as presenting the congregation in a simulation of worship at the Grand Mosque (Ali, 2022). However, there are several challenges that must be faced, such as access to technology for some groups of people who are not yet digitally literate and challenges in maintain message integrity preaching in the era of fast-paced and often unverified information .

Here are some examples of companies that are developing digital transformation in the future. Google and Amazon Web Services (AWS) are currently developing a big data platform for applications that can be used in various sectors, including religion (Rahman, et.al., 2022). Cisco and IBM are developing IoT solutions that can be applied in religious environments and missionary institutions (Husni, et.al., 2020). Microsoft and OpenAI companies has worked in developing AI platforms for applications service public, including in context religious (Fahad & Al- Qurashi , 2021).

Palantir Company and McAfee is developing technology more sophisticated security to protect data generated from the use of big data and IoT in a religious context (Kilic & Yildirim , 2020).

METHOD

This study uses a descriptive qualitative approach to examine the implementation models. transformation digital through great data, IoT , And AI in management preaching start from planning, organizing, directing, and supervising. Research informants is ChatGPT as a simulation tool based on AI. Data is obtained through interactions and conversations focused on the use of big data technology, IoT , and AI in digital preaching. Researchers will also compare the results of these conversations with relevant literature sources.

Reliability And validity data Which obtained tested through triangulation source And Method triangulation. Source triangulation is done by comparing data sources between data collected from ChatGPT with the results of journal studies, books, scientific articles, and relevant reports on digital transformation models in

da'wah management. Method triangulation is done through interview interactive with ChatGPT as well as study literature related. Comparisons were made between the conversation results and data taken from scientific literature to strengthen the research conclusions.

Qualitative Data Analysis Procedures start from: (1) data collection through interaction sessions with ChatGPT which focus on implementation big data, IoT , and AI in management preaching, (2) data reduction where the collected data is selected and grouped according to major themes: big data, IoT , and AI, and the application of this technology in da'wah management to find digital transformation models in da'wah management, (3) data presentation is presented narratively to describe the pattern of digital transformation application in da'wah. Information from ChatGPT is juxtaposed with the results of academic literature to provide a comprehensive picture, and (4) conclusions are drawn based on the results of data analysis, conclusions are drawn about how big data, IoT , and AI models can be used effectively in da'wah management and their impact on the effectiveness of spreading Islamic teachings in the digital era. This method provides a clear and practical research framework, with using ChatGPT as the primary source, while still validating the data through existing scientific literature.

DISCUSSION AND DISCUSSION

This model shows how big data collects data from various sources such as social media, websites and digital platforms to analyze audience needs (see Figure 1). IoT (like a mosque) clever) give feedback real time and automate certain processes in the mosque. AI helps in personalizing content and automating interactions through chatbots . This model simplifies planning, organizing, directing, and controlling religious outreach in the modern digital context.

The resulting model describe how great data, IoT (Internet of Things), and AI interact in da'wah management. In more detail, here is an explanation of the relationship between the three technologies and how they work to increase

congregational engagement and encourage them to come to the mosque more often.

The following is an explanation of Figure 1 related to big data, IoT , and AI. Big data in context management preaching used For gather, keep, And analyze large amounts of data from various sources such as:

- **Media social** (Facebook, Twitter, Instagram)
- **Platform preaching digital** (YouTube , application preaching)
- **Site web preaching**

How Big Data Works:

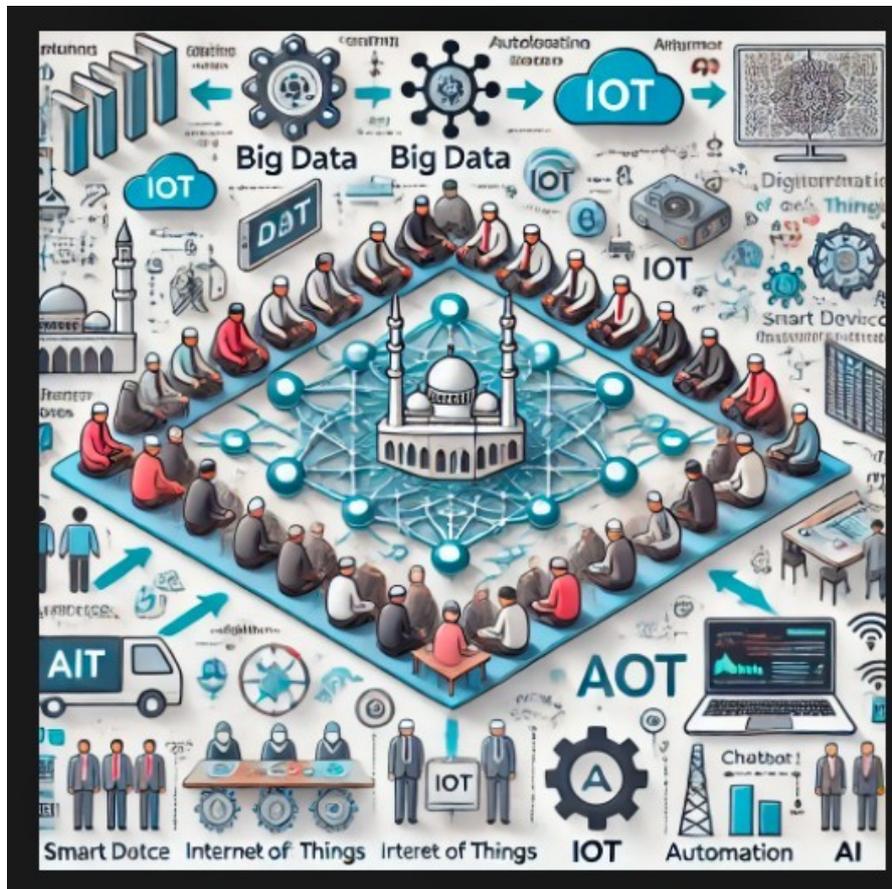
- **Data collection** : collecting data on the online behavior of the congregation , such as what preaching content they access, the questions they ask, and when they are active.
- **Analysis trend** : use analytic data For understand patterns preference congregation,
for example about religious topics they often search for or spiritual problems they face.
- **Audience segmentation** : the data is then used to divide the audience into specific groups, such as age, gender, and topic preferences.

Benefit:

- **More targeted missionary planning** : with the available data, missionary organizations can plan programs and content that are more appropriate to the needs of the congregation.
- **Personalization of messages** : preaching messages can be tailored to a more specific audience , so that preaching becomes more relevant to them.

Example Implementation : In a number of country, analysis big data help mosque arrange program-

programs according to the interests of the congregation, such as scientific studies, special studies for women, or community-based social programs.



Picture 1: Model Integration Maha Data, IoT , And AI in Management Da'wah

Source: Prompt by David Sukardi Nature; produce by ChatGPT

IoT in the context of da'wah management to manage da'wah facilities through connected devices that collect data and automate services. This includes smart devices that can be installed in mosques or other places of worship.

Method Work IoT :

- **Sensor in mosque** : measure amount congregation Which present, arrange temperature room, lighting, and ventilation systems automatically according to conditions and needs.
- **Application IoT Congregation** : application Which connected with

mosque For informing about events, managing congregation queues , or providing notifications about activities at the mosque.

- **Remote facility management** : Mosque administrators can control mosque facilities remotely using smartphones or a centralized system.

Benefit:

- **Greater comfort for worshippers** : Smart mosques can adjust the atmosphere based on the number of worshippers, creating a comfortable environment, thus encouraging them to come more often.
- **Operational efficiency** : More efficient energy management, automatic facility adjustments, and better mosque supervision.

Example : Mosques in countries such as Saudi Arabia and the United Arab Emirates are already using IoT technology to manage facilities during the Hajj season, optimizing the comfort and safety of pilgrims with the help of sensors and smart devices.

AI in the context of da'wah management is used to increase interaction and the effectiveness of spreading da'wah messages automatically and personally.

Method Work AI:

- **AI-based chatbot** : used to answer congregation questions regarding religious matters or provide spiritual advice at any time.
- **Automatic content recommendations** : Based on the preferences of the congregation analyzed from big data, AI can recommend lectures, articles, or videos that are relevant to their interests.
- **Predictive analytics** : AI can predict what issues might be of top concern to congregants based on trends on social media or da'wah platforms.

Benefit:

- **More personal interactions** : AI allows congregants to receive fast and accurate responses to their questions or concerns, increasing their satisfaction and engagement .
- **Efficiency in spreading da'wah** : AI can help spread da'wah messages more

widely and automatically without having to always rely on manual interaction from da'wah administrators.

Example : Some platforms AI in East The center is already using a da'wah chatbot that is able to communicate with thousands of worshipers simultaneously, offering solutions or answers to their spiritual problems.

Connection between Maha Data, IoT , And AI in Management Da'wah

Big data provides information about the needs of the congregation and their behavioral trends. IoT automates the physical environment in the mosque, ensuring comfort and operational efficiency based on the data obtained. AI analyzes big data to personalize da'wah and automate interactions with the congregation through chatbots or content recommendations. These three technologies work together to create a more da'wah experience relevant and personal, increasing comfort, and encouraging worshipers to visit the mosque more often.

CONCLUSION

Integration of big data, IoT , and AI in da'wah management creates a modern and efficient model in spreading da'wah messages. This technology not only helps da'wah organizations in planning and organizing but also provides a more personal and comfortable experience for the congregation, so that they feel more connected to the mosque and are motivated to attend more often.

ACKNOWLEDGMENT

The author would like to extend heartfelt thanks to the lecturers and supervisors for their invaluable guidance and encouragement throughout this study. Special appreciation is also given to the informants and contributors whose insights and support played a crucial role in the completion of this research.

REFERENCES

- Ahmed, M. (2020). The Role of AI Chatbots in Delivering Islamic Guidance : Fatwa Bots and Religious Consultation . *Journal of Islamic Studies and Technology*.
- Al-Harbi, A. (2021). The Role of Big Data in Managing Religious Services at The Mosque An-Nabawi. *Journal of Islamic Digital Leadership* , 8(2), 112-125.
- Al- Rabadi , T. (2022). AI in Mosque Management : Enhancing Operational Efficiency through Automation . *Journal of Islamic Technology Management* .
- Ali, F. (2022). The Future of Digital Da'wah : Opportunities and Challenges in the AI Era. *Journal of Religious Studies and Technology*.
- Ali, R. (2019). Performance Evaluation in Da'wah Organizations . *Journal of Islamic Management Studies* , 12(2), 45-58.
- Alwi, M. H. (2020). Management Da'wah in Era Digital. *Journal of Religious Management* .
- Aziz, M., Rahman, S., & Hanafi, T. (2021). Big Data and Its Role in Strategic Planning of Islamic Da'wah . *Journal of Islamic Leadership* , 13(2), 35-48.
- El-Amin, K. (2022). Collaboration between Islamic Organizations and Tech Companies : Building the Future of AI- driven Da'wah . *Journal of Religious Technology*.
- El Amin, Y. (2023). "The Future of AI in Islamic Outreach ." *International Journal of Religious Technology* .
- Fadhil, Y. (2020). Predictive Analytics and AI in Islamic Propagation . *Journal of Digital Da'wah Planning* , 9(2), 50-66.
- Fahad, M., & Al- Qurashi , S. (2021). AI- Driven Chatbots for Religious Engagement :

- The Case of Islamic Bot. *Journal of Islamic AI Applications* , 9(1), 45-60.
- Fahmi, M. (2019). Human Resources Management in Islamic Da'wah Organizations . *Journal of Islamic Leadership* , 11(2), 40-52.
- Hamid, Z., Fikri, A., & Nurul, S. (2021). IoT-Based Systems in Islamic Propagation : A Case Study.
Islamic Technological Innovation Journal , 11(2), 95- 110.
- Hasan, Z. (2020). Leadership in Da'wah Management : A Conceptual Approach .
Journal of Islamic Organization Management , 10(1), 15-27.
- Hassan, Z. (2020a). Community based Da'wah Management : A Responsive Approach . *Islamic Communication Journal* .
- May Allah's guidance, R. (2022). IoT-Enabled Monitoring in Islamic Institutions .
Journal of Islamic Leadership , 15(1), 20-32.
- Husni, A., Junaidi, A., & Fauzan, R. (2020). IoT-Enabled Mosque Automation : A Case Study of Istiqlal Mosque , Indonesia. *International Journal of Islamic Technology* , 7(4), 230-244.
- Kilic , M., & Yildirim , E. (2020). Integration AI and Big Data for Religious Management in Turkey .
Journal of Digital Islamic Studies , 10(3), 67- 81.
- Mansoor , K. (2020). Big Data and AI for Religious Institutions : Case Studies in Islamic Communities . *Journal of Technology in Religion* .
- Nasruddin, I., Dear Mr. Fathurrahman, A., & Nurul, K. (2022). Artificial Intelligence in Islamic Da'wah Management . *Journal of Islamic Studies and Technology* , 12(3), 33-45.
- Nurul, K. (2022). Collaboration in Da'wah Management : Challenges and Opportunities . *Journal of Islamic Strategic Planning* , 15(1), 12-27.
- Rahman, H. (2021). Digital Transformation in Da'wah Management . *Islamic Organizational Journal* , 14(3), 75-89.
- Rahman, A., & Syamsul, A. (2019). The Role of IoT in Enhancing Da'wah Activities .
Journal of Islamic Technology , 8(1), 14-29.

- Rahman, F., Shukri , H., & Maulana, T. (2022). Utilizing Big Data and AI for Strategic Islamic Communication in Malaysia. *Journal of Islamic Studies and Technology* , 12(3), 33-45.
- Shaikh , A. (2021). AI and Personalization in Religious Messaging . *Technology and Religion Review* .
- Solomon, H. (2020). AI- Driven Solutions in Da'wah Services: Opportunities and Challenges .
Journal of Islamic Automation , 9(4), 55- 67.
- Syafii, A. (2020). The Role of Artificial Intelligence in Da'wah Management . *Journal of Digital Islamic Studies* , 9(4), 67-80.
- Mr. Zainuddin, M., & Maulana, T. (2021). The Use of Big Data in Evaluating Islamic Da'wah Campaigns . *Islamic Research Journal* , 14(1), 120-130.