

Maintenance Planning for Masjid Kariah in Malaysian Perspective: A Systematic Literature Review and PRISMA Method

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ABSTRACT

The maintenance planning of Masjid Kariah in Malaysia is critical for ensuring the functionality, safety, and spiritual integrity of these community-focused institutions. Despite their significance, these mosques face numerous challenges, including limited financial resources, insufficient skilled labour, and the need to balance between traditional architectural elements and modern building techniques. This study has conducted a systematic literature review, by employing the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method, to examine the maintenance challenges of Masjid Kariah in Malaysia and to propose contextually appropriate strategies to improve their maintenance practices and long-term community function. By synthesising the findings of previous studies, this aimed to fill the gap in the literature concerning the unique maintenance requirements of Masjid Kariah. This review has identified several key issues, such as inadequate facilities, poor monitoring systems, and the lack of strategic planning in rural mosques, which often suffer from neglect. The findings of this review have also underscored the need for a more systematic and culturally sensitive maintenance strategy to address the specific challenges faced by these mosques in Malaysia.

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INTRODUCTION

The Islam, as defined by Prophet Muhammad means submission to God, and a Muslim is someone who follows Islam as a way of life. Islam is one (1) of the fastest-growing religions globally, with a significant following. In the 1970s, the global Muslim population was 570 million and by 2020, it had grown to 1.9 billion, with Asia experiencing the most substantial growth. Malaysia has become Southeast Asia's second-largest Muslim nation during this demographic rise (Latief et al., 2021). Muslims would congregate in a mosque, known as "masjid" in Malaysia, which scholars describe as a place for prostration. The masjid is essential in the Muslim community, serving as a centre for worshipping and communal activities, while providing protection, security, and harmony.

To fulfil its purpose, a masjid must be well maintained so that the community can comfortably worship and engage in activities. Malaysia has over 6,000 masjids, serving both urban and rural populations, but they face several maintenance challenges. These challenges include limited funds, a shortage of skilled labour, and the need to balance between traditional architecture and modern techniques (Hamdan et al., 2023). Other issues such as unmanaged facilities, cleanliness concerns, and insufficient sanitary facilities are common, especially in rural areas, where masjids often lack proper facilities due to outdated construction. The Department of Islamic Development Malaysia classifies masjids into five (5) levels (1-Universal Level, 2-National Level, 3-State Level, 4-District Level and 5-Community Level), with Masjid Kariah being the most numerous in the community level. However, studies would often focus on the higher-level mosques and neglecting the maintenance needs of Masjid Kariah. Through a systematic literature review guided by the PRISMA method, this study aimed to examine the maintenance challenges of Masjid Kariah in Malaysia and to propose contextually appropriate strategies to improve their maintenance practices and long-term community function.

MAINTENANCE PLANNING IN MASJID KARIAH: A MALAYSIAN PERSPECTIVE

Community mosques, known as Masjid Kariah, play a vital role in fostering spiritual, educational, and social cohesion within Malaysian communities. However, these mosques face significant maintenance challenges that hinder their ability to serve effectively. A primary concern is the limited financial resources allocated for upkeep, leading to deferred maintenance and deterioration of facilities. This financial constraint is often exacerbated by a lack of skilled labour and inadequate maintenance planning, resulting in the gradual decline of the mosque's physical condition and its ability to accommodate congregational needs (Mazlan et al., 2018). Furthermore, integrating traditional architectural elements with modern building techniques presents additional complexities in maintenance practices, necessitating specialised knowledge and approaches (Yusof et al., 2025).

Previous studies on mosque maintenance in Malaysia have predominantly focused on state and national mosques, often overlooking Masjid Kariah (Yusof et al., 2025). Therefore, there is a pressing need for research specifically targeting the maintenance of Masjid Kariah to ensure their effectiveness in serving local communities. This study aims to examine the maintenance challenges of Masjid Kariah in Malaysia and to propose contextually appropriate strategies to improve their maintenance practices and long-term community function. To achieve this aim, the following research questions have been formulated to guide the systematic review:

- (i) What are the current issues and challenges in maintenance planning faced by Masjid Kariah in Malaysia?

- (ii) What are the best suggestions tailored to the unique challenges and circumstances these Masjid Kariah face to improve maintenance practices?

The next section presents the research methodology that covers data collection and analysis procedures.

RESEARCH METHODOLOGY

The literature review was conducted according the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009). Although the PRISMA method is primarily used in medical research, it has recently been adopted in other fields, including social sciences and sustainable development research (Mensah, 2019). Previous review papers often lack detailed reporting on the procedures used in the article selection process, which is a key part of data collection in research. However, the PRISMA guidelines provide a standardised methodology for conducting systematic literature reviews, thus, enhancing the reliability and quality of the review process (Razak et al., 2022). For this study, a review method was developed that outlined the search strategy via available resources, including inclusion and exclusion criteria and details of the data analysis procedures. This review method consisted of four (4) main steps namely, i.e. identification, screening, eligibility and inclusion (data abstraction and analysis).

Main Data Resources and Search Strategies

This review used secondary data that were sourced from electronic database that conducted using two (2) main databases, namely, SCOPUS and the Web of Science (WoS) with institutional access and collected relevant literature. These sources are online research databases have a comprehensive collection - SCOPUS (stores approximately 28,000 active journals and nearly 300,000 books), while the WoS has 8,850 major journals. The relevant literature was identified through an advanced search using a combination of the Boolean/Phrase operators i.e., nesting and truncation techniques, for keywords that are associated with “Maintenance Planning and Management”, “Masjid Kariah”, “local mosques” and “Malaysia”. The initial step was not to search these terms in all fields in the literature and the date was not specified in order to obtain the preliminary number of occurrences of these terms being used in the literature. Consequently, the initial search identified a total of two (2) literature and published between 2012 to 2014.

Identification

The systematic review process for selecting relevant articles for the study consisted of three (3) main stages. The first stage was the identification of keywords, followed by the process of searching for related and similar terms based on thesaurus, dictionaries, encyclopaedia, and past research. In this study, thesaurus.com, collinsdictionary.com and merriam-webster.com were used to search the keywords (synonyms) for “Maintenance Planning and Management”, “Masjid Kariah”, “community mosques” and “Malaysia”. Based on the identification of synonyms or similar terms, similar terms were selected based on the suitability of the aim of the study to the search string data on Scopus and the WoS databases. Accordingly, these search strings were developed in August 2024 after all relevant keywords have been determined. However, the current research work was unable to retrieve any article from both databases. Nonetheless, similar keyword searches were also done manually in other databases (ScienceDirect, Springer, Sage, Taylor & Francis, JSTOR, Emerald Insight, MDPI, MYCite and Google Scholar) that has resulted in one hundred ten (110) articles. Therefore, a total of one hundred ten (110) articles has been retrieved in the first stage of the systematic review process. Table 1 shows the search string used in this study.

Table 1. The Search String

Academician	
SCOPUS	TITLE-ABS-KEY ([“Community Mosque” OR “Masjid Kariah” OR “Mosque”] [“Maintenance Planning” OR “Maintenance Management” OR “Maintenance Planning and Management”] AND [“Malaysia”])
Web of Science (WoS)	TS= ([“masjid kariah” OR “community mosque” OR “maintenance planning masjid kariah”] AND [“community mosque*” OR “masjid kariah”] AND [“maintenance planning” OR “maintenance management” OR “masjid kariah”])

Source: Shaffril et al. (2019)

Screening

The purpose of the first screening was to remove duplicate articles. In this case, no article was extracted during the search in SCOPUS and WoS, thus, there was no exclusion during the first stage. Then, the one hundred ten (110) articles extracted from ScienceDirect, Springer, Sage, Taylor & Francis, JSTOR, Emerald Insight, MDPI, MYCite and Google Scholar were screened based on several inclusion and exclusion criteria, as determined by the researcher in the second stage. The three (3) criteria used in this study were the Type of Mosque, Case Study and Subject Area. These criteria were specifically chosen for Masjid Kariah in Malaysia, while the subject area was under for construction building technology, building and construction and Environmental Science. Consequently, 68 articles were excluded based on these criteria. Table 2 shows the lists of inclusion and exclusion criteria used in this study.

Table 2. The Inclusion and Exclusion Criteria

Criterion	Eligibility	Exclusion
Type of Masjid	Masjid Kariah	Masjid Negara (the national mosque), Masjid Negeri (state mosques) and Masjid Daerah (district mosques)
Case Study	Malaysia	Other than Malaysia
Subject Area	Construction building technology, building and construction and environmental science	Other than construction building technology, building and construction and environmental science

Source: Shaffril et al. (2019)

Eligibility and Inclusion

The remaining thirty-three (33) extracted articles were further analysed in the third and fourth stages known as eligibility and inclusion, respectively. In the third stage, the title, abstract and the main content of these articles were thoroughly examined to ensure that they fulfil the inclusion criteria and fit to be employed in the present study in order to achieve its aim. Consequently, all thirty-three (33) articles remained in this stage because they were based on empirical data and have focused on maintenance planning on Masjid Kariah from the Malaysian perspective. Additionally, nine (9) from of 33 articles have been classified in the indexed journal group (two (2) articles were from SCOPUS and seven (7) articles are MyCITE), while the seventeen (17) remaining articles were in the institutional, proceedings and conference publications groups. Figure 1 shows the flow diagram of the stages in this study.

The methodology for this study was designed to ensure a comprehensive and rigorous analysis of the existing literature on maintenance planning for Masjid Kariah in Malaysia. By adhering to the Preferred

Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, the review process was structured to include four (4) key phases: identification, screening, eligibility, and inclusion. This review study has sourced secondary data from two (2) primary electronic databases, SCOPUS and WoS, along with additional manual searches on other databases such as ScienceDirect, Springer, Sage, Taylor & Francis, JSTOR, Emerald Insight, MDPI, MyCite and Google Scholar. This search strategy involved advanced techniques, including Boolean operators and truncation, to capture all relevant literature without restricting publication dates. This initial search resulted in 110 articles, which were then subjected to a rigorous screening process. After removing duplicates and applying the inclusion and exclusion criteria, 33 articles were deemed relevant and included in the final analysis. These articles were selected based on their focus on Masjid Kariah in Malaysia, with a particular emphasis on maintenance planning within the context of construction building technology and environmental science.

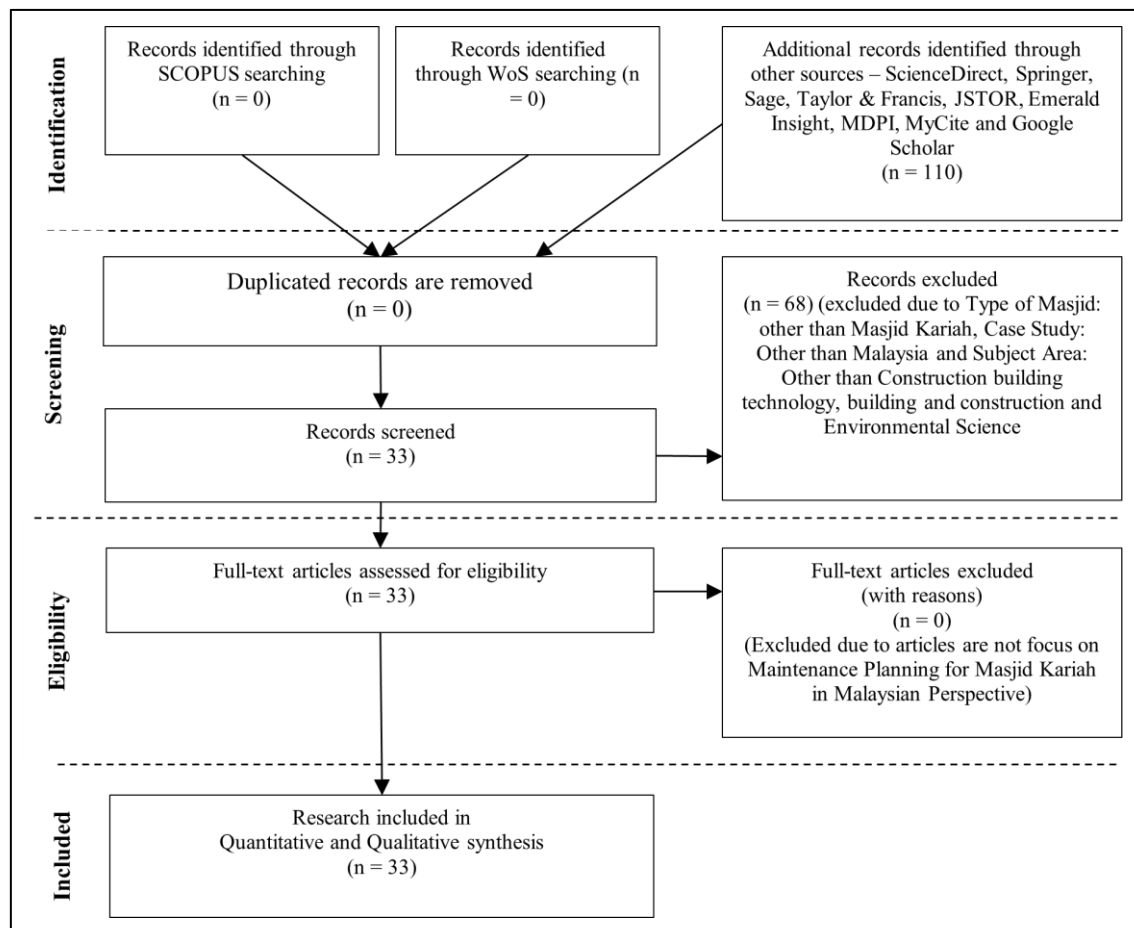


Fig. 1. Flow Diagram of The Stages in This Study

Source: Shaffril et al. (2019)

The systematic approach used in this study has ensured that the findings were both reliable and relevant to the specific needs of Masjid Kariah in Malaysia, while addressing the existing gaps in the literature and providing a solid foundation for improved maintenance practices.

ANALYSIS AND DISCUSSION

This study aimed to address two (2) critical research questions concerning the maintenance planning of Masjid Kariah in Malaysia:

- (i) What are the current issues and challenges in maintenance planning faced by Masjid Kariah in Malaysia?
- (ii) What are the best recommendations tailored to the unique challenges and circumstances these Masjid Kariah face to improve maintenance practices?

The effort to answer these questions was aimed at bridging the existing gap in the literature regarding the maintenance needs of Masjid Kariah. This type of mosque plays a crucial role in the Malaysian community but often receive less attention compared to higher-level mosques, such as the National Mosque or State Mosques. A total of six (6) themes has been observed based on the extracted previous articles on maintenance planning for Masjid Kariah from the Malaysian perspective, as follows:

- (i) Community Involvement and Engagement (seven (7) journals)
- (ii) Financial Management and Sustainability (eight (8) journals)
- (iii) Maintenance Practices and Technical Issues (six (6))journals)
- (iv) Leadership and Governance (four (4) journals)
- (v) Challenges in Rural and Urban Contexts (four (4) journals)
- (vi) Historical and Heritage Mosques (four (4) journals)

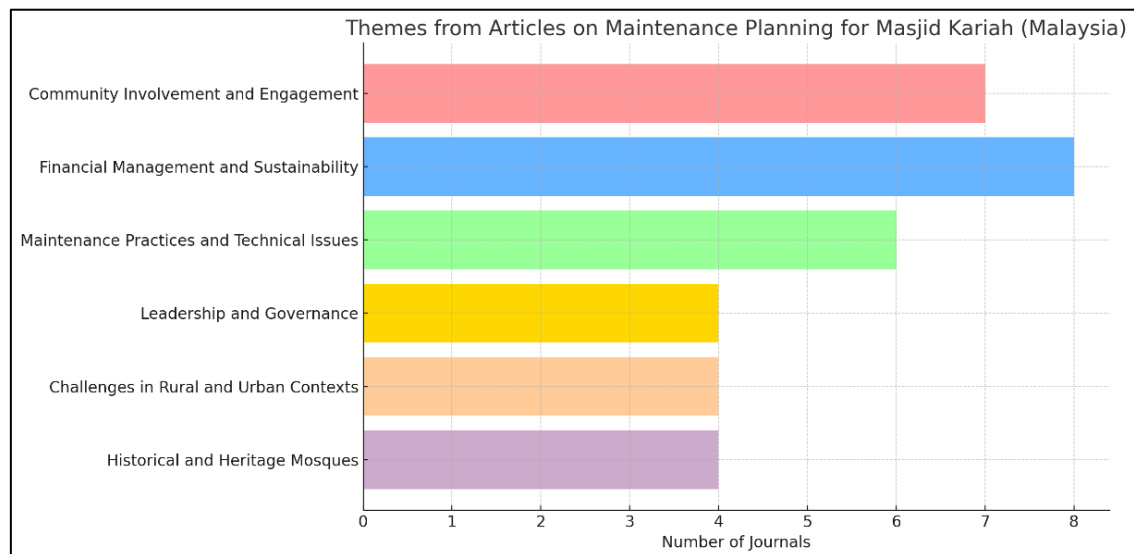


Fig. 2. The Six Themes of Maintenance Planning of Masjid Kariah in Malaysia

Source: Authors (2025)

Figure 2 shows the six (6) themes of maintenance planning of Masjid Kariah in Malaysia and Table 3 shows the lists of issues and challenge in maintenance planning for Masjid Kariah in Malaysian and suggestions for overcoming them.

Community Involvement and Engagement

The theme of community involvement and engagement in mosque maintenance has highlighted several critical issues, including the lack of consistent community participation, challenges in motivating volunteers for long-term involvement, and insufficient community-driven initiatives in certain regions. Adriansyah & Haikal (2024), Mulyanto & Muttaqin (2023) and Malik (2017) have identified these persistent challenges, which emphasised the need for effective strategies to enhance community engagement. To address these concerns, it is recommended to increase community involvement through targeted awareness programmes that could educate and inspire participation. Additionally, the implementation of structured volunteer programmes with clearly defined roles could help sustain long-term involvement. Developing community-driven maintenance models is essential to ensure the sustainability and effectiveness of these initiatives, as noted in the works of Adriansyah & Haikal (2024), Suhendi et al. (2024), Mulyanto & Muttaqin (2023) and Malik (2017). These programmes should aim to foster a stronger sense of ownership and responsibility within the community, ultimately leading to more vibrant and well-maintained mosques.

Financial Management and Sustainability

The theme of financial management and sustainability in mosque operations has brought to light several significant issues, such as insufficient financial resources needed to maintain mosques effectively, a heavy reliance on irregular donations, and a lack of sustainable funding sources. Additionally, financial mismanagement or inadequate financial planning often exacerbates these challenges, as noted in studies by Adriansyah & Haikal (2024), Bello (2023) and Mong et al. (2019). To address these financial challenges, it is crucial to develop sustainable financial strategies, including the establishment of endowments and regular donation drives, which could provide a more consistent and reliable funding base. Enhanced transparency and accountability in financial management is also essential to build trust within the community and to ensure that resources are used effectively. Furthermore, alternative funding sources, such as zakat (charitable giving) and government grants, Adriansyah & Haikal (2024), Suhendi et al. (2024) and Bello (2023), could provide additional financial support and contribute to the long-term sustainability of mosque operations. By implementing these recommendations, mosques could achieve greater financial stability and ensure their ability to serve the community effectively.

Maintenance Practices and Technical Issues

The theme of maintenance practices and technical issues in mosque facilities has revealed several critical challenges, including poor maintenance practices that could lead to the deterioration of mosque structures, inadequate training, and a lack of technical knowledge among maintenance staff. Noticeable discrepancies were also observed between traditional and modern maintenance methods, which could hinder effective upkeep, Yusof et al. (2025), El-Maraghy et al. (2023) and Dzulkifli et al. (2021). To address these issues, it is essential to provide regular training and upskilling opportunities for mosque maintenance staff, to ensure that they are equipped with the necessary knowledge and skills to maintain facilities effectively. The integration of modern maintenance practices with traditional approaches, wherever appropriate, could enhance the efficiency and effectiveness of maintenance efforts. Furthermore, implementing a standardised maintenance framework across mosques, could ensure that consistent and high standards are kept in mosque upkeep. These measures are crucial for preserving the structural integrity

and aesthetic value of mosques, which would ensure they could continue to serve their communities effectively.

Leadership and Governance

The theme of leadership and governance in mosque management underscored several pressing issues, including weak leadership in overseeing mosque operations and maintenance, ineffective governance structures that impede decision-making processes, and a general lack of strategic planning. These challenges have been reported in studies by Mulyanto & Muttaqin (2023), Sani et al. (2014) and Adnan et al. (2012). which indicated the need for significant improvements in how mosques are managed. To address these issues, it is recommended to strengthen leadership training for mosque committees and management teams, which could equip them with the necessary skills to effectively lead. Establishing clear governance frameworks is also essential to enhance operational efficiency and to ensure that decision-making processes are streamlined and effective. The adoption of best practices in mosque governance and leadership should also be encouraged, which could foster more strategic and organised approaches to mosque management. By implementing these recommendations, mosques which could improve leadership and governance, and ultimately leading to more effective management and better service to their communities.

Challenges in Rural and Urban Contexts

The theme of challenges in rural and urban contexts has highlighted the distinct issues faced by mosques in different settings, particularly in terms of resources, community involvement, and maintenance practices. Rural mosques often grapple with more severe financial and technical difficulties, struggling to secure the necessary funds and expertise for effective upkeep, (Dzulkifli et al., 2021; Mong et al., 2019; Malik, 2017). In contrast, urban mosques might have to deal with overcrowding and the demands of maintaining larger, and more frequently used facilities (Adriansyah & Haikal, 2024; El-Maraghy et al., 2023; Dzulkifli et al., 2021) have emphasised the need for tailored approaches to these challenges. To address these disparities, it is recommended to develop maintenance and management strategies that are specifically adapted to the unique needs of both rural and urban mosques. Providing additional support and resources to rural mosques could help them overcome financial and technical obstacles, thus ensuring they remain vital community hubs. Additionally, fostering collaboration between rural and urban mosques could facilitate resource sharing and mutual support. These strategies aim to create a more equitable and effective approach to mosque management, regardless of the geographical context.

Historical and Heritage Mosques

The theme of historical and heritage mosques has presented unique challenges, particularly in preserving these sacred sites while ensuring they meet modern needs. Maintaining the delicate balance between necessary functional upgrades and the preservation of heritage values is a significant concern, as highlighted by Izahar et al. (2022), Rahim et al. (2022) and Harun & Said (2021). To address these challenges, it is essential to implement specialised preservation plans tailored to the unique requirements of historical mosques. Any modernisation efforts should not compromise the cultural and historical significance of these mosques. Expertise in heritage conservation could guide maintenance practices, thus, ensuring that both preservation and functionality are achieved. Additionally, encouraging community involvement in these efforts is crucial, as it could foster a collective sense of responsibility and appreciation for the mosque's historical and cultural legacy. By adopting these strategies, historical mosques can be preserved for future generations, while remaining functional and relevant to their communities.

Table 3. Issues and Recommendations on Maintenance Planning for Masjid Kariah from the Malaysian Perspective and the List of Authors

No.	Theme	Authors	Issues and Challenges	Suggestion to overcome the issues and challenges
1.	Community Involvement and Engagement	Adriansyah & Haikal (2024), Suhendi et al. (2024), Mulyanto & Muttaqin (2023), Malik, (2017).	Lack of consistent community participation in mosque maintenance. Challenges in motivating volunteers for long-term involvement. Insufficient community-driven initiatives in certain regions.	Increase community engagement through awareness programmes. Implement structured volunteer programmes with clear roles. Develop community-driven maintenance models to enhance sustainability.
2.	Financial Management and Sustainability	Adriansyah & Haikal (2024), Bello (2023), Mong et al. (2019).	Insufficient financial resources to maintain mosques effectively. Reliance on irregular donations and lack of sustainable funding sources. Financial mismanagement or lack of financial planning in mosque operations.	Develop sustainable financial strategies, including endowments (waqf) and regular donation drives. Improve transparency and accountability in financial management. Explore alternative funding sources like zakat (charitable giving) and government grants.
3.	Maintenance Practices and Technical Issues	Yusof et al. (2025), El-Maraghy et al. (2023), Dzulkifli et al. (2021).	Poor maintenance practices leading to the deterioration of mosque facilities. Inadequate training and technical knowledge among mosque maintenance staff. Discrepancies between traditional and modern maintenance methods.	Provide regular training and upskilling for mosque maintenance staff. Integrate modern maintenance practices with traditional approaches where appropriate. Implement a standardised maintenance framework across mosques.
4.	Leadership and Governance	Mulyanto & Muttaqin (2023), Sani et al. (2014), Adnan et al. (2012).	Weak leadership in managing mosque operations and maintenance. Ineffective governance structures hindering decision-making processes. Lack of strategic planning in mosque management.	Strengthen leadership training for mosque committees and management teams. Establish clear governance frameworks to enhance operational efficiency. Encourage the adoption of best practices in mosque governance and leadership.
5.	Challenges in Rural and Urban Contexts	Yusof et al. (2025), Adriansyah & Haikal (2024), El-Maraghy et al. (2023), Dzulkifli et al. (2021), Mong et al. (2019), Malik (2017), Adnan et al. (2012).	Differing challenges between rural and urban mosques in terms of resources, community involvement, and maintenance practices. Rural mosques often face more significant financial and technical difficulties. Urban mosques may struggle with overcrowding and higher maintenance demands.	Tailor maintenance and management strategies to the specific needs of rural and urban mosques. Provide additional support and resources to rural mosques to overcome financial and technical challenges. Encourage collaboration between rural and urban mosques for resource sharing and support.

No.	Theme	Authors	Issues and Challenges	Suggestion to overcome the issues and challenges
6.	Historical and Heritage Mosques	Izahar et al. (2022), Rahim et al. (2022), Harun & Said (2021).	Preservation challenges in maintaining historical mosques while ensuring they meet modern needs. Balancing the need for functional upgrades with the preservation of heritage values.	Implement specialised preservation plans for historical mosques. Seek expertise in heritage conservation to guide maintenance practices. Encourage community involvement in preserving the cultural and historical significance of these mosques.

Source: Authors (2025)

This study has thoroughly explored the current issues and challenges in maintenance planning faced by Masjid Kariah in Malaysia, as well as provided tailored recommendations to address these challenges effectively. This systematic literature review has identified the following six (6) key themes based on the reviewed articles: Community Involvement and Engagement, Financial Management and Sustainability, Maintenance Practices and Technical Issues, Leadership and Governance, Challenges in Rural and Urban Contexts, and Historical and Heritage Mosques. These themes were critical for understanding the complexities of mosque maintenance. Through an in-depth analysis of 33 articles, this study offers comprehensive insights into the unique maintenance needs of Masjid Kariah. By implementing the recommended strategies, which included enhancing community participation, improving financial management, adopting modern maintenance practices, strengthening leadership, addressing the distinct challenges of rural and urban mosques, and preserving historical sites, Masjid Kariah could achieve sustainable maintenance and continue to serve as vital community hubs in Malaysia. These findings not only could contribute to the academic discourse on mosque maintenance but also provide practical solutions for improving the upkeep of these important religious and cultural institutions.

CONCLUSION

This systematic literature review offers an in-depth exploration of the prevailing issues and challenges associated with maintenance planning for Masjid Kariah in Malaysia, synthesising findings from 33 selected articles. As essential religious and socio-cultural institutions, Masjid Kariah encounter a range of complex challenges, including financial limitations, insufficient technical capabilities, governance weaknesses, and context-specific disparities between urban and rural settings. From the reviewed literature, six (6) key themes were identified – namely, community involvement and engagement; financial management and sustainability; maintenance practices and technical concerns; leadership and governance; rural–urban contextual challenges; and the preservation of historical and heritage mosques. Collectively, these themes provide a comprehensive framework for understanding the multidimensional nature of mosque maintenance and highlight the need for more structured, responsive, and contextually appropriate planning strategies. The study meaningfully contributes to bridging the gap in existing scholarship by offering actionable insights to support the sustainable development and effective upkeep of Masjid Kariah across Malaysia. Despite these contributions, several limitations should be acknowledged. The study's exclusive dependence on secondary sources and peer-reviewed publications may have resulted in the exclusion of relevant grey literature or practice-based insights. Furthermore, the lack of retrieved articles from prominent academic databases such as SCOPUS and Web of Science necessitated the adoption of alternative platforms and manual searches, which may introduce a degree of selection bias. The review was also limited to articles published in English, thereby potentially overlooking valuable contributions written

in the Malay language. In summary, enhancing maintenance planning for Masjid Kariah is imperative – not only to ensure the operational integrity and safety of mosque facilities – but also to safeguard their enduring function as central hubs for worship, community cohesion, and cultural continuity within the Malaysian societal landscape.

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CONFLICT OF INTEREST STATEMENT

The authors agree that this research was conducted in the absence of any self-benefits, commercial or financial conflicts and declare the absence of conflicting interests with the funders.

AUTHORS' CONTRIBUTIONS

All authors participated in conducting the research, drafting and revising the article, conceptualising the central research idea, and reviewing and approving the article for submission.

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