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### Exploring the Mughal Styles of Colonial Mosque in Johor

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#### ABSTRACT

Malaysian architecture has undergone significant transformation, shaped by diverse cultural influences that contribute to the nation's rich heritage. During the British Malaya period, various foreign architectural styles, including Mughal elements integral to Islamic architectural traditions, converged within the local landscape. This study focuses on Johor, a pivotal region under British colonial rule, where these influences were particularly evident in mosque architecture. This evolution led to intricate public structures that contribute to the country's cultural heritage, though sometimes resulting in stylistic blends that can appear complex. The study specifically aims to identify Mughal architectural styles that influenced the design of colonial mosques in Johor, with Masjid Sultan Abu Bakar in Johor Bahru as the primary case study. Employing historical analysis and direct observation, the research explores Mughal architectural adaptations in public structures. Through a detailed review of secondary sources, the research first examines the history of Mughal architecture and its adaptation in Johor, followed by observational analysis of the mosque itself. The findings offer a comprehensive review, providing refined insights into the Mughal architectural styles embedded in the design of Masjid Sultan Abu Bakar, Johor Bahru.

**Keywords:** Colonial mosques; Malaysian colonial era; Mughal architecture; mosques; component; introduction

#### 1. Introduction

Architecture in Malaysia is a tapestry of diverse cultural influences that reflects the country's layered history. This rich architectural landscape has evolved through the contributions of indigenous, regional, and foreign styles, particularly during periods of foreign presence, including British colonial rule. The colonial period in Malaysia, especially under the British, introduced new architectural elements that merged with local and Islamic styles, creating a unique cultural synthesis. Among these influences, Mughal architecture, an Islamic architectural style originating from the Indian subcontinent left a lasting impact on Malaysian mosque design. This influence is prominently visible in certain colonial-era mosques, where structural features and decorative details reflect the stylistic trademarks of Mughal design. Johor, as a key region during British Malaya, witnessed this architectural blending. The state's mosques, particularly those built or renovated during the colonial era, illustrate a convergence of local traditions with Mughal elements. Masjid Sultan Abu Bakar in Johor Bahru, a prominent colonial mosque, exemplifies this blend. Its design showcases Mughal-

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inspired features, including domes, arches, minarets, and decorative motifs, which harmonize with local and Islamic architectural forms.

## *1.1 Literature Review*

### *1.1.1 Colonial buildings in Johor*

The Malaysian architecture including Johor has evolved over time, reflecting the country's numerous cultural influences and rich cultural legacy [5]. From the traditional Malay architecture, erected on stilts and composed of wood and thatch. Later, Islamic architecture was imported to Malaysia by the Public Works Department in British India and later in British Malaya during their services. British Malaya oversaw incorporating Moorish and Mughal architecture as part of Islamic architecture into most public structures as seen by the design of mosques and other religious structures [8]. In Johor, the 19th century saw the start of British colonization which had a profound impact on the region's architectural development. With the signing of treaties and agreements, Johor became increasingly integrated into the British Empire, leading to the establishment of colonial infrastructure and institutions. The British colonial architecture in Johor combined Victorian, Edwardian, and Neo-Classical styles to showcase the grandeur and influence of the British Empire. The Sultan Ibrahim Building in Johor Bahru showcases architectural fusion with its impressive façade, majestic columns, and detailed details. The architectural development of Johor during the colonial period reflects a dynamic interplay of colonial imposition, indigenous adaptation, and cultural synthesis. From the early Portuguese forts to the British colonial edifices, each architectural epoch contributes to the layered history and identity of Johor.

### *1.1.2 Colonial buildings in Johor*

The Mughal Empire, one of the largest centralized states in pre-modern history and the last major Islamic empire on the Indian subcontinent, spanned present-day India, Pakistan, and Bangladesh. Mughal architecture represents a unique fusion of Islamic, Persian, and Indian styles [4,5]. Shah *et al.*, [12] suggests two main explanations for the influence of Mughal architecture in Malaysia: firstly, British colonialists developed an affinity for Islamic architecture during their presence in India, leading to a significant appreciation for Mughal design in the 19th century. Secondly, Indian Muslim merchants who migrated to various regions of Malaysia brought elements of Mughal architecture into local mosque construction.

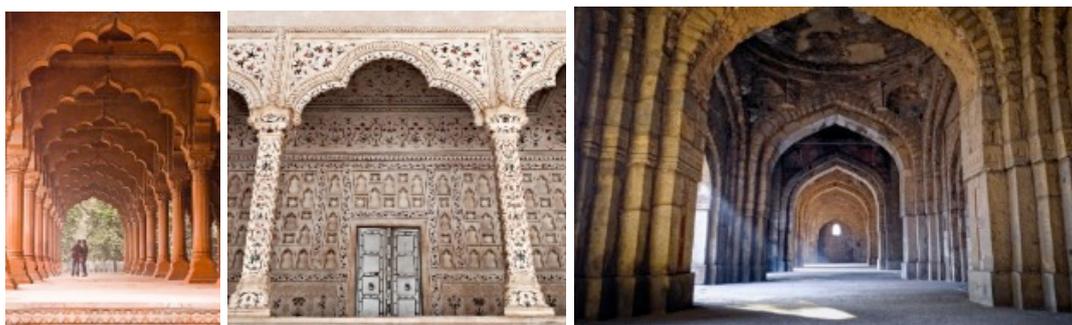
Mughal mosques are often characterized by vast complexes, typically including a large courtyard surrounded by a sanctuary, or *pishtaq*, with a distinctively extended, bulbous dome. Additional architectural elements such as *chhatris* (domed pavilions), decorative minarets, and occasionally larger functional minarets on the opposite sides of the courtyard emphasize verticality [1]. A prime example of Neo-Mughal influence in Malaysia is the Kapitan Keling Mosque in Penang [2].

## *1.2 Mughal Architecture Characteristics*

### *1.2.1 Arch and pillars*

The introduction of Mughal arches in India can be attributed to the Muslim community's influence. The structures were constructed using corbelled techniques and then shaped into an arch. Subsequently, they gained an understanding of arch procedures and refined their aesthetic and structural attributes. The migration of skilled artisans from Persia and Central Asia to India significantly contributed to the aesthetic refinement of arches. In the early Mughal period,

Humayun's extended stay in Persia had a significant impact on the Mughal architectural style. The architectural element known as the pointed or four-centered arch the most distinguishing feature of the Mughal arch is its quadrilateral or cusped form, as seen in Jama Masjid, Delhi. (Figure 1) The arch style under consideration is characterized by two concave curves that intersect at a central location at the arch's apex. The Mughal architectural style is distinguished by its exquisite and distinctive appearance. According to [7], the arch was a structural element that spans an opening and typically took the form of a pointed arch, pointed horseshoe arch, horseshoe arch, ogee arch, Voussoir arch, or segmented arch.



**Fig. 1.** The Mughal arch

### 1.2.2 Minaret

The presence of numerous balconies at various levels distinguishes a minaret, which is a vertical architectural feature. It typically possesses a polygonal base and is frequently found in association with mosques. Minarets are sporadically erected in diverse positions throughout Mughal mosques, encompassing the corners as well as both the interior and exterior of the buildings. In order to preserve architectural balance, pairs of these pieces were strategically placed on both sides of the structure (Figure 2). The principal function of a minaret was to act as a mechanism for summoning adherents to engage in prayer. However, it is important to acknowledge that certain minarets, like the Qutub Minar in Delhi, also functioned as representations of victory. [5] assert that the architectural composition of the Masjid Jamek in Kuala Lumpur showcases a notable inclusion of external influences, notably the amalgamation of Moorish and Mughal styles, as evidenced by the presence of two towering minarets. (Figure 3)



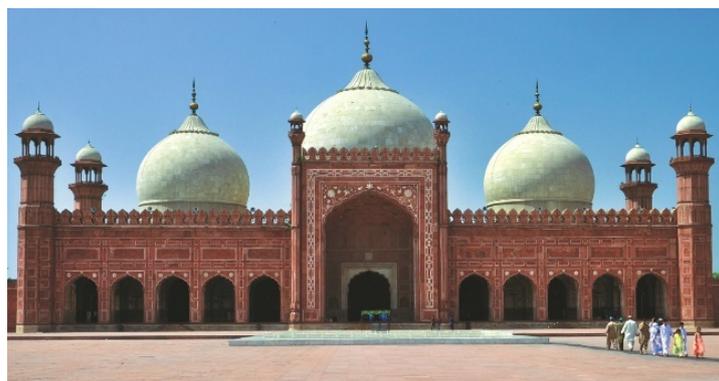
**Fig. 2.** The minaret at Jama Mosque, Delhi



**Fig. 3.** The minaret at Jamek Mosque, Kuala Lumpur

### 1.2.3 Dome

In the Numerous Mughal edifices, including mosques, mausoleums, and palaces, are characterized by their distinctive and refined domes, which are regarded as a hallmark of Mughal architecture. Mughal domes stand out for their distinctive bulbous shape; these architectural features frequently resemble the shape of a bulb or an onion. This distinctive architectural style distinguishes them from other architectural styles and enhances their aesthetic appeal. In the early phases of the development of Indian architecture, domes featured corbelled designs like those found in Jain temples. Subsequent dome designs integrated shallow, multi-centered structures constructed atop elevated platforms. The hemispheric double-shell dome emerged as a crucial component in early Mughal architecture, with its origins tracing back to the Persian twin domes of the 11th century, which influenced this transformative shift [4]. According to [10], subsequent iterations of bulbous domes evolved into onion-shaped structures with thin stems. During the Sultanate period, squinches were used to transform square bases into circular ones, whereas during the Mughal period, muqarnas became popular. With the passage of time, the inverted lotus topped with a finial became the defining decorative element for these structures. Originally created for roofing purposes, domes ultimately became a prominent element of Indian Islamic architecture. (Figure 4)



**Fig. 4.** Dome of Jama Mosque, Delhi

### 1.2.4 Ornament and pattern

Prior to the influence of Islam, geometric ornamentation was seldom utilized in Indian architecture, with only a handful of instances existing. However, with the arrival of Islam and its

restrictions on depicting figurative forms, geometric designs featuring calligraphy and arabesque motifs gained prominence as primary decorative elements in Indian architectural aesthetics. These artistic expressions manifested in the form of polygons, stars, rosettes, and their various combinations. Geometric patterns not only embellished walls but also played a significant role in lattice screens within the region's architectural landscape. (Figure 5)



Fig. 5. Dome of Jama Mosque, Delhi

## 2. Analysis and Findings

Masjid Sultan Abu Bakar in Johor Bahru is a prime example of Mughal architectural influence in Malaysia. Built between 1892 and 1900 under the reign of Sultan Abu Bakar, this mosque incorporates distinctive Mughal features that showcase a blend of Islamic and colonial architectural styles.

### 2.1 Arch and Pillars

The mosque uses pointed and horseshoe arches, a hallmark of Mughal architecture, combined with colonial elements. These arches contribute to an airy, open ambiance and exemplify the grandeur associated with Mughal structures. The pointed and horseshoe-shaped arches in Masjid Sultan Abu Bakar (Figure 6), typical of Mughal architecture, evoke a sense of height and grandeur, reminiscent of those in iconic Mughal monuments like Delhi's Jama Masjid and Lahore's Badshahi Mosque.



**Fig. 6.** Mughal arch in Masjid Sultan Abu Bakar

In Masjid Sultan Abu Bakar, the pointed and horseshoe-shaped arches are used extensively throughout the facade, doorways, and windows, providing structural support while also enhancing the mosque's aesthetic appeal. These arches not only create a sense of openness and elevation but also serve as key visual elements that guide visitors' eyes upward, emphasizing the grandeur and sanctity of the space. The repetitive use of these arch forms across the mosque adds harmony and rhythm to the architecture, blending Mughal elegance with colonial structural order

## *2.2 Minaret*

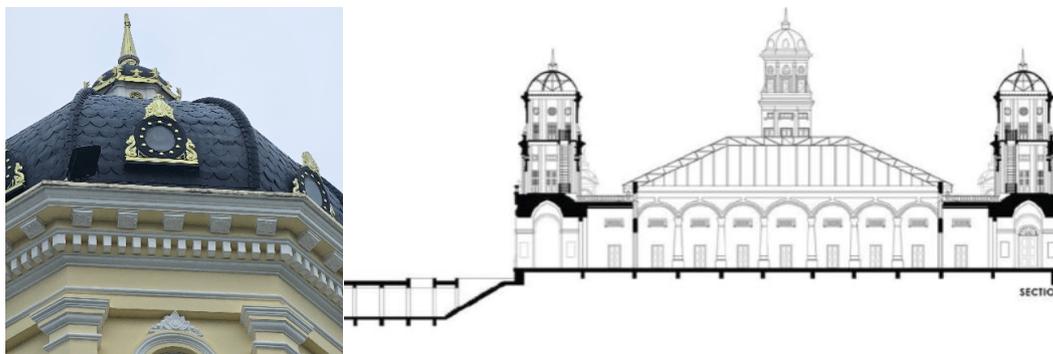
The minarets of Masjid Sultan Abu Bakar (Figure 7) are distinctive features that blend Mughal and colonial architectural elements, giving the mosque a unique, hybrid character. Four minarets, positioned at each corner of the mosque, resemble British clock towers in their form but incorporate Mughal-inspired detailing, such as domed caps and decorative moldings. These minarets have layered sections that taper upwards, a typical Mughal design aspect, while also integrating colonial influences through their symmetrical, orderly structure. Tapered Sections: Each minaret is divided into several levels that gradually taper as they ascend, a characteristic often found in Mughal minaret design, such as those in the Badshahi Mosque in Lahore. This layered construction draws the eye upward, emphasizing the height and grandeur of the structure. The minarets' design balances both functionality and aesthetics; they serve as visual focal points that draw attention from a distance while also symbolizing the mosque's sacred presence. Their height and placement help emphasize the mosque's architectural symmetry and grandeur, making the minarets key elements in achieving the mosque's iconic, regal appearance.



**Fig. 7.** Mughal minaret in Masjid Sultan Abu Bakar

### 2.3 Dome

The domes of Masjid Sultan Abu Bakar (Figure 8) exhibit a Mughal influence, though they are uniquely adapted to the mosque's Mughal style. The main dome and smaller secondary domes of Masjid Sultan Abu Bakar are onion-shaped—a hallmark of Mughal architecture, as seen in the Taj Mahal giving them a bulbous, rounded appearance that symbolizes grandeur and harmony. The dome of Masjid Sultan Abu Bakar positioned emphasizes the building's symmetry which is smaller domes on each of the four corner minarets visually link the minarets to the primary structure, reflecting the Mughal tradition of clustered domes to enhance grandeur and aesthetic depth.



**Fig. 8.** Mughal dome in Masjid Sultan Abu Bakar

### 2.4 Ornament and pattern

Masjid Sultan Abu Bakar exemplifies intricate Mughal ornamentation and patterns that enrich its architectural design. The mosque features elaborate stucco work on its arches, pillars, and exterior walls, inspired by Mughal floral and geometric motifs like stylized vines, flowers, and arabesques, which reflect the artistry prevalent in Mughal architecture. Geometric patterns adorn doors, windows, and interior spaces, fostering a harmonious rhythm and echoing the precision and symmetry that define Mughal aesthetics, while fine latticework on windows and balustrades enhances visual allure and allows light and air to permeate the interiors, creating an atmosphere of serenity. The muted, earthy tones used throughout the mosque highlight its detailed ornamentation without overwhelming the viewer, contributing to its regal yet refined aesthetic. (Figure 9)

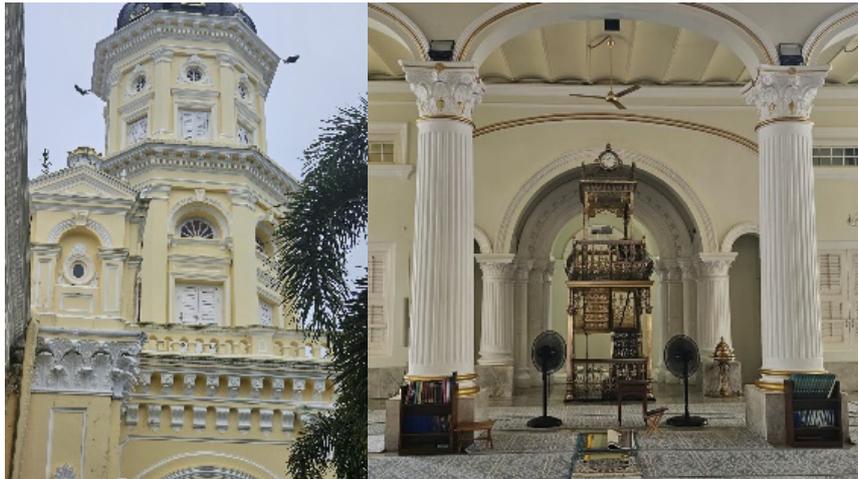


Fig. 9. Mughal dome in Masjid Sultan Abu Bakar

### 3. Conclusions

Overall, these Mughal-inspired elements significantly contribute to the mosque's opulent yet balanced design, showcasing the cultural fusion that characterizes its architectural style and reflecting the rich historical context in which it was built.

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