

Research Article

# Impact of Islamic Art on the Architectural Design of Mosques in Amman

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## Abstract

**Objectives:** This article aims to highlight and study traditional and contemporary Islamic Art in Jordanian mosques. **Methods:** Comparative analysis of Islamic Art concerning the mosque architecture in Amman, analysis of theoretical works on this topic, and historical approach. The study will also include a study of mosques in Amman. **Results:** When designing new mosques, architects need to study not only traditions, design experience, the space-planning solution of the mosque, and the functional organization of space but also the meaning of ornaments. The ornaments on the facade and interior, as well as various art objects in the interior, are the most expressive differences that indicate that the building belongs to the culture of Islam and forms a religion. **Conclusions:** Islamic art and architecture in Jordan have deep roots in the history of the religion. Many buildings and structures were built during the reign of the Umayyads, Abbasids, and other dynasties, who left their mark on architecture and design. Islamic sculptures and decorations also reflect Jordan's culture and heritage richness.

## Keywords

Islamic Art, Jordanian Mosques, Art, Architecture

## 1. Introduction

Islamic art is a value of beauty and artistry and has social, intellectual, and religious significance. This is due to the variety of its manifestations caused by many changes that have occurred in Islamic societies in different parts of the world. This art applies to patterns of plant and geometric shapes, straight and parallel lines, and other manifestations. Therefore, Islamic Art has become the starting point for many art and architecture studies. In this regard, researchers have found the need to study Islamic Art's artistic and cultural values and identify its expressive and intellectual

contents.

Islamic art has been extolled as a holy form of art of great importance to Muslims, especially in mosques. In mosques, Islamic Art is aimed at portraying the beautiful and spiritual calligraphic work that expresses the beauty and spirituality of the Islamic religion. Islamic art in mosques represents an infinite sense of spirituality through its many manifestations. Islamic art's importance is evident primarily in Islamic architecture, especially mosques.

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## 2. Methodology

### 2.1. Research Methods

Comparative analysis of Islamic Art concerning the mosque architecture in Jordan, analysis of theoretical works on this topic, and historical approach. The study will also include a study of mosques in Jordan.

### 2.2. Research Problem

In this article, the researcher talks about how Islamic Art has influenced Jordanian mosques, and Islamic Art has many sources and manifestations, including patterns, Arabic script, arabesques, and many other manifestations, how they influenced Jordanian mosques, either modern or ancient.

### 2.3. Significance of the Study

The significance of the study lies in understanding the cultural and artistic values of Islamic Art in Jordanian mosques in order to identify its main characteristics and importance in the religion and society. It is also important to study the influence of Islamic Art on the design and construction of mosques. Additionally, I will study its recent developments and maintenance culture.

### 2.4. The Object of the Study

The cultural and artistic values of Islamic Art in Jordanian mosques and to delve into the multiple concepts of the manifestations of these arts mentioned in the research text. The main emphasis will be on Islamic decorations, which still look new and have well-preserved aesthetics despite its long existence. Most of these arts have existed since the Islamic era, as seen in many Islamic buildings, including Al-Hamshari mosque, King Abdullah I mosque, and King Hussein bin Talal mosque, which it attracts worshipers to those decorative masterpieces in those mosques.

### 2.5. Purpose of the Study

Reveal the aesthetic and artistic values of Islamic Art in the context of its historical, cultural, and national roots, as well as to identify the principles for incorporating decorative art, ornaments, and fonts into the architecture of mosques.

Research objectives: To study the features and types of Islamic ornament in Islamic Art; to study the role, semantics, and meaning of ornaments in Islamic Art; analyze where ornaments are placed in the architecture of mosques, the purpose of the ornament on the facade and in the interior of the mosque; to use the Al-Hamshari mosque as a model, which was built in a modern Western style, to show the role of the ornament in designating the building's belonging to the culture of Islam, in organizing and accompanying the reli-

gious ritual. The research aims to identify the extent of the impact of Islamic Art and various manifestations on modern Jordanian mosques, including the decoration of mosques. Also, information on Arabic calligraphy, which often overshadows most mosques, will be emphasized mainly in terms of its importance to Islam and its aesthetics.

#### *Historical overview of Islamic Art*

Islamic art in mosques represents an infinite sense of spirituality through many manifestations, including calligraphy. Calligraphy is not only a means of conveying the text but also expresses the beauty and perfection of Islam. Calligraphers had a high status in society since calligraphy was an element of beauty and spiritual significance. Let's define styles of Islamic Art and how they influence Islamic mosques, including vegetative and geometric figures straight and parallel lines.

The arabesque rhythm corresponds to Arabic poetry and music, which demonstrates the idea of an infinite universe. This arabesque pattern can be placed on any surface of any shape and size (on a building, a book, cutlery, jewelry, etc.). Due to its nature, you can stop or continue any time during the design while maintaining integrity and rhythm. It is really true that the so-called Islamic Art is just a late and degraded depiction of Byzantine and Sasanian Art, as some Orientalists. In fact, this statement has been disputed by several modern orientalists and other experts. This statement is also deniable by the apparent facts. The identity of Islamic Art is beyond doubt and controversy. This art, born in the land that witnessed great civilizations before Islam, drew its soul from the Islamic religion and its body from the heritage of these civilizations. It chose from this heritage what corresponded to it in order to express its soul [9].

#### *Characteristics of Islamic Decor in Islamic Art*

The Islamic ornament's first feature strengthens the infinity of patterns. This includes intricate geometric patterns that clearly depict the infinity of Almighty God. Geometry in Islamic art and architecture creates basic patterns in design. Unique intertwining lines, various patterns demonstrating the finest imagination and creativity, and duplicating any geometric drawing of an architectural element on a different scale in one plane also help avoid sharp contrast and a clear definition of scale and surface [4].

Islamic art has its own characteristics, including decorative elements that reflect local traditions and foreign influences, and it also considers the Islamic world's geographical area. A decorative element in Islamic architecture performs several functions, including the creation of expression and the absence of imitation of space. Beauty in Islamic art and culture encompasses harmony, balance, and the expression of a sense of power in the dominant life. One of the many forms of Islamic art is calligraphy, which has been developed over centuries and is characterized by its properties in different cultures and regions. Calligraphy is a means to convey text and an expression of beauty and perfection, as in Figure 1. Due to the importance of calligraphy, calligraphers have a high status

in society [8].



**Figure 1.** Mohammed Zakariya, *In the Name of God, Universally Merciful, Specifically Merciful*, Green gold lead, Taracloth, natural red Italian earth with acrylic, 42x 28 inch, 2010. (zakariya.net) [16].

Islamic art, including architecture, is one of the ways to express faith in Allah. There are many ways in Islamic Art to emphasize this belief, one of which is the high quality of its aesthetic value. In Islamic Art and architecture, it is perhaps the most designed with quality decorations. Islamic decor serves as a platform for presenting information about Islamic culture, including Islamic values and identity. In addition, Islamic Decor is unique because of the wealth of hidden meaning that affects a person's perception of spiritual beauty. Therefore, the beauty of spiritual culture and its connection with Islamic Decor. Also, Islamic decor should be considered part of the interior space of Islamic architecture and not just as additional decorations added later or to fill spaces. Through the interaction of people and the interior space, these decorations can satisfy human needs for beauty. Therefore, this study also focuses on the beauty and aesthetics of jewelry that satisfy one of the psychological needs of a person: to be in a beautiful place [1]. A semiotic approach was chosen for the analysis of Islamic Decor, as it reveals the literal meaning of the symbols. The value of the research described in this article lies in the definition and evaluation of the aesthetic and religious properties of Islamic Art and its manifestations can be very useful for artists and scholars in understanding Islamic Art [11]. The object of the study is ornaments in the architecture of ancient and modern mosques. Using the example of mosques in Amman (Jordan), traditional ornaments are considered from the point of view of their purpose, content and symbolism, location, and plastic organization. The compositional techniques, stylization methods, and images used in ornaments are analyzed. In the modern architecture of mosques, continuity in approaches to decoration is combined with the active use of modern technologies in the construction and interpretation of ornaments as well as their embodiment in the material. Since there are significant changes in the

space-planning solutions of mosques in connection with modern functional tasks, these ornaments are, therefore, the most essential indicator of identifying religious buildings. New interpretations of the visual language and the purpose of mosques' decoration are due to globalization and the use of computer technologies to design structures. The authors conclude that it is necessary to follow the canons of Islamic ornamental motifs when using them in modern architecture, especially in religious buildings. By offering engineering and artistic innovations, the authors should preserve the plasticity and symbolism of the ornaments in which the philosophy of Islam accumulates.

#### *Ornament in the culture of Islam*

In the culture of ancient peoples, the ornament was a visual reflection of the surrounding world, a symbolic description, and a sum of meanings about the world order and values. Decorative elements of plants, animals, and landscapes are very similar to the art of different religions, but the artistic style and application of each of these elements differ and may change from epoch to epoch. Aesthetic and artistic tasks were not explicitly set before the masters. Abstraction, generalization, stylization of natural forms and phenomena, their transformation into iconic signs, metaphors, and rhythmic organization in an ornamental row or on a plane, facilitated the process of decorating objects, enhanced the expressiveness of the image, and facilitated their understanding. The subordination of the pictorial series to the form of objects that emphasized their special meaning was a talisman, part of the ritual [15]. In Europe, the verb "decorare" (to decorate) means to exalt or glorify, in contrast to "ornare" (to supply the necessary, equip, arm). "Ornamentum" – equipment decorated with engraving and embossing material was supposed to protect the life of a warrior. After the victory, the emperor was entitled to a "decorum" – a purple mantle, a laurel wreath, triumphal arches and columns, and solemn processions in honor of the triumph. The decor had an ideological subtext, and the ornament had a formal and more applied meaning. Since it is forbidden in Islam to depict a person or any other living being an Arabic art ornament has become the most important image and decoration, unlike European decorative and applied art, where it had a more auxiliary, formal meaning [14]. Islam is not just a religion; it is a way of life, so there is no clear division between secular and religious arts. These ornaments were used not only for religious purposes but were present in the daily life of Muslims. The ornament in Islam is very diverse in form and color, meaningful and deep in content. Its basis is symbols and signs [12]. There are two styles of Islamic ornament: geometric (Girih, from Persian knot) and vegetable (Islimi, from Persian bindweed, spiral). Girih was mainly used to decorate mosques and large books, where stylized polygonal figures emphasized perfection, greatness and power, the unattainability of heights, and isolation from earthly existence. Islimi is also seen in books, clothes, and household utensils, as well as in the interiors of mosques. The infinite variety of its variants, a slight change in each subse-

quent curl in one row, shows the continuous development of natural forms, accessibility, warmth, closeness, and softness of the surrounding world. Sometimes, these styles were mixed; for example, a large geometric grid of Girih was filled with woven small vegetable curls [13]. An exact mathematical calculation based on repeating one or more elements of the pattern – Arabesque (from the French Arabesque – "Arabic"). The rhythm of Arabesque is consonant with Arabic poetry and music, which illustrates the idea of an infinite universe. The arabesque pattern can be placed on a surface of any shape and size (on a building, book, tableware, jewelry, etc.), and you can stop or continue at any point while maintaining integrity and rhythm [2].

Ornament in the architecture of ancient mosques in Jordan

One of the motives of traditional Islamic buildings, such as mosques, was to make the lives of believers and users identical. They belong to their artificial environment and thus relate to the power and harmony of Murtaza. The main thing should be to preserve the Islamic faith and encourage the application of Sharia law in mosques. Given the religious and educational role of the mosque, it must be accompanied by the needs of the society in an effort to maintain an acceptable level of basic human needs. Such is the beauty of the presence of motifs and ornaments that welcomes everyone who enters the physical environment. At the beginning of the VII century, when the teachings of the Prophet Muhammad began to spread rapidly throughout the Arab East, the early buildings of the Arabs were preserved. However, the Romans and Byzantine buildings were adapted for life and use; in other words, the buildings were built on ruins and from the materials of ancient structures. The new civilization actively developed and formed unique subject-spatial environment styles. Islamic art refers to the civilization and culture of a large group of people united by faith in Islam, and it is commonly correlated with Islam's spirit, philosophy, and teachings. Arab-Islamic architecture emerged as a result of the designer's harmonious response to the religious principles of Islam, which include divine messages. The ornament was the most important means of indicating household items and architectural objects belonging to the culture of Islam [7].

Mosques should be classified as a type of building inspired by society, which is similar to the housing where they are located and should be studied along with their social factors, such as users' physical and psychological needs. These buildings should provide a high level of comfort that satisfies its users' spiritual and psychological needs in various cultural needs. The Quran mentions about 120 passages describing paradise as a beautiful place that gives a sense of tranquility [17]. The mosque has always been both a meeting place and a madrasah school, dialectically combining mercy and severity. An ornament in the Girih style and a Kufic font for inscriptions were frequently used on the facades. In the interior, the soft forms of Islimi and Nazca freely filled fragments of walls framed openings created an atmosphere of unity and brought a person closer to God. A rectangular, strict Girih can be found

only above the mihrab (the niche in the wall where the imam says the prayer is directed towards Mecca). Muslims can see the Girih only when they get up for prayer, during prayer, conversations, and classes; besides these, the ornament does not come into view.

Historian Abu Ghanima Ali wrote that the development of modern architecture in Jordan was associated with the search for an integrated concept of the role of an architect and the creation of a Syndicate of Engineering Professions [3]. In the eighties of the XX century, young architects in their projects began to actively turn to Islamic heritage, where they demonstrated a love for stone and developed a modern architectural language in the context of national traditions. One example of Islamic Art is the Naji al-Hashimi Mosque, which was decorated with this art, giving it many beautiful and artistic qualities. When you look at it, it seems that you are looking at a work of art painted in a beautiful way from plaster, which calms the eyes of a Muslim. Al-Hamshari mosque was chosen as a comparison with other mosques in Jordan as it is a modern building, as in Figure 2. Echoes of hi-tech, minimalism, deconstructivism, eco-design, and even elements of non-linear architecture can be traced to the construction of the mosque. However, the ornaments are the main detail, indicating that the building belongs to the culture of Islam and is religious. Ornaments designate the main functional areas of the mosque and their semantic content.



**Figure 2.** Al-Hamshari Mosque in Amman. Exterior. Designed in 2011. <http://www.atelier-white.com/ar/services/2-مسجد-الهمشري> [6].

The Al-Hamshari Mosque was designed by the architectural group Atelier White from Dubai in 2011 under engineer Samir Maghrabi from Amman, representing Balad Engineering Consulting. On the one hand, the Al-Hamshari Mosque demonstrates the elegant eclecticism of various styles of Western architecture of the XX century. On the other hand, this mosque uses an approach that allows us to turn to modern "Western" architectural forms to create new interpretations that enrich the usual meanings of the architecture of Islam. Thus, the principle of displacements and shifts is used both in the spatial composition and the Al-Hamshari mosque's planning composition. The inclusion of "islands" of greenery, urban street life, land, trees, water, and stones into the real



space of the mosque, due to shifts and overlays, emphasizes the multidimensionality of space (multilevel, multilayered) and works on the metaphor of the Garden of Eden. This metaphor is also supported by the image of the Sun, expressed by a pattern of sharp and direct sunlight. The lines of rays that "dissect" the temple's space are visible in the mosque's interior, in the treatment of the walls, in decorative elements, and in the transparent partition that replaced the mihrab niche. The living "solar matter" in Jordan is so active that it does not just build a game of chiaroscuro but fills the temple with "weighty", changeable, independent "figures" of light.

The minaret of the Al-Hamshari Mosque is mainly a symbolic form. This is a four-sided pillar that has no cavity inside, with loudspeakers located at the top and decorated with texts from the Koran (the reduction of a modern mosque to the most straightforward prismatic volume without a dome with a decorative and symbolic pillar of the minaret is one of the characteristic solutions of small mosques in Europe, for example, the mosque in Penzberg, Germany). In combination with the verticals of fountains and the movable surface of a small reservoir, the minaret acquires the sound of an "aquatic theology" (Sh. Shukurov). Water in Jordan has special semantic connotations: in a country experiencing an acute shortage of water, even a small pool or fountain is perceived as a jewel and is really felt by the viewer as a sacred Source of Life, as an element of ritual ablution. Religious sacralization unfolds into earthly life as if merging with it. [5].

The Hamshari mosque is distinguished by its walls' light color and modern design, which does not follow any specific classical style known in Islamic architecture. However, due to the lack of columns, The Hamshari mosque is distinguished by its walls' light color and modern design, which does not follow any specific classical style known in Islamic architecture. However, due to the lack of columns, the interior space is close to that of the Ottoman style of mosque architecture. The Hamshahri mosque is one of the most beautiful and enriched local mosques in terms of construction and decoration, separating the minaret and supporting it in the western part of the front facade of the minaret. The mosque increased the strength and boldness of the design, attracting the attention of passers-by even more. The minaret is decorated with some inscriptions of the square Kufic script. The upper crescent of the minaret is silver in color, with a metal rectangle in shape and a glass crescent circle at its top. Another recognized source of inspiration for the architecture of the Hamshari mosque is its construction. This construction cannot be called complete dismantling. Despite the constant "play" with transitions in form, transformations of elements, light "gaps" of individual parts, the volumetric and spatial composition of the mosque is functionally clear. The basement is decorated with local rough-cut stone, which enhances the impression of sustainability. The chosen square module iconographically and extensively contains the primary intents of the architecture of Islam. It also contributes to the impression of balance, stability, and tranquility rather than creating a sense of disorientation of

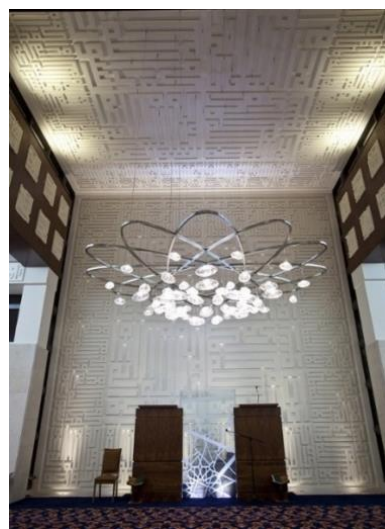
space, a sharp and contrasting dynamic fundamentally important for deconstruction. The square plane evokes very interesting connotations with some ancient perception of The Shape of the human body, which is precisely manifested in Jordan through the sculptures of Ain Ghazal, which is why I chose him as I personally visited this mosque in Jordan and took many photos that were included in my master's thesis.

What attracts the visitor's attention to the al-Hamshiri Mosque is the prayer hall, a large wall with two testimonies and their repetition on the wall of the Kaaba, the wall of mihrab and minbar, as well as the inscription of the Ayat al-Kursi in Kufic script on the entire wall of the Kaaba and Surah Ikhlas. The master architects focused on the large scale of writing and decorations to attract the worshippers' attention without distracting them with excessive jewelry, as in Figures 3, 4. This wall is also present on the Kaaba wall outside the mosque. As for jewelry in Islamic Art, we see that the Muslim artists combined two types of jewelry: geometric lines and large scale.



Architect: Samir Maghrabi.

**Figure 3.** Photo of the author. Al-Hamshari Mosque in Amman. Interior. Designed in 2011.



Architect: Samir Maghrabi.

**Figure 4.** Photo of the author. Al-Hamshari Mosque in Amman. Interior elements. Designed in 2011.

We can see similar experiments with form and decoration in the architecture of other modern mosques. For example, the Al-Rawda Mosque (2009-2011) was formed as a result of a study by a group of Amman architects, "Uraiqat Architects," of the possibilities of modern computer technologies for the modernization of traditional Islamic forms and patterns. The decorative motifs used in the geometric structures of the Al-Rawda Mosque represent the re-design of the Seljuk decor, which prevailed in the Islamic East in ancient times. The movements of the Sun's rays impose a "grid of displacements" on the traditional ornament, enhancing the effect of layering and complexity of space. Based on the principles of triangulation by L. Danzer, architects from Uraiqat Architects organize the space of the Al-Rawda Mosque in such a way as to reveal the nature of the material, construction technologies, mesh structures, natural lighting and turn the temple into an "interactive space that connects with the person entering this space, creating an architecture of light, tradition, and modernity." The Al-Hamshari Mosque (2011) is similar to the Al-Rawda Mosque in many ways. In addition to a single minaret (a technique typical of Jordan) in the form of a prismatic dominant pillar, they are also united by the main formative principle - the principle of displacement, shifts, overlays, spatial "gaps," rooted in the architecture of de-constructivism.

Thus, we have shown the following trends. Architectural forms began to be simple geometric shapes. The traditional stone was replaced by concrete, reinforced concrete, metal, marble, and mosaic used for facade cladding. When foreign masters began to imitate traditional local architecture in administrative and religious buildings, they used some vocabulary of heritage without deep knowledge of its content and concept. The first attempts to present new models of Arab architecture were unsuccessful, but they made us consider the importance of studying heritage and preserving local identity [10]. It is the ornament that makes it possible to indicate the belonging of the building to Islamic culture, to show that it is a religious building, to convey the content and meanings of the ritual, and to designate functional areas in the interior.

### 3. Results

This article discussed many manifestations of Islamic Art, including Arabic calligraphy, how these manifestations affect mosques in Jordan and Islamic decoration, and how they affect the environment and acceptance in the local community. After studying a group of locally known mosques in the capital, Amman, the study concluded the following results. The traditional mosque consists of two main places: a quiet internal space dedicated to worship, prayer, and religious lessons, which are of great importance to the local community, and an external space that represents a social space and a transitional space between the outer earthly space and the

inner spiritual space. This is in addition to various public places that create a positive interaction between the religious community and the surrounding society. From an architectural and aesthetic point of view, the selection of the Al-Hamshari mosque and other similar mosques is considered contemporary in this study. The example of these mosques clearly shows the big role ornaments have in their architecture. When designing new mosques, architects need to study not only traditions, design experience, the space-planning solution of the mosque, and the functional organization of space but also the meaning of ornaments. The ornaments on the facade and the interior, as well as various objects of art in the interior, are the most expressive differences that indicate that the building belongs to the culture of Islam and forms a religious ritual.

### 4. Conclusions

Islamic art and architecture in Jordan have deep roots in the history of the religion. Many buildings and structures were built during the reign of the Umayyads, Abbasids, and other dynasties, who left their mark on architecture and design. Islamic sculptures and decorations also reflect Jordan's culture and heritage richness. An important aspect of Islamic Art is calligraphy. Calligraphy is the art of writing that is used to write the Quran and other sacred texts. Jordanian mosques contain many calligraphic elements that are important to the design. Calligraphic decorations can be made on walls, ceilings, doors, windows, and other components. In Jordan, you can also find many mausoleums and memorial complexes that are part of Islamic architecture. These buildings are dedicated to famous personalities and have significant historical value. Mausoleums can be decorated with calligraphy, sculpture, and other decorative elements. Moreover, Islamic art and architecture in Jordan attract tourists from all over the world. Many mosques, mausoleums, and other Islamic structures are open to the public and are popular tourist attractions. Tourists can enjoy the beauty of architectural forms, learn more about the culture and history of Jordan, and feel the spirit of the Islamic faith. Islamic art and architecture in Jordan continue to evolve and adapt to modern requirements. Some new mosques and mausoleums combine traditional elements with modern technologies and materials to create unique and functional structures. Islamic art and architecture in Jordan are essential elements of the region's culture and heritage. They reflect the richness and diversity of Islamic culture and play an indispensable role in maintaining a connection with faith and traditions. The preservation and study of these art manifestations help preserve historical memory and continue to be inspired by them in the future.

### Conflicts of Interest

The authors declare no conflicts of interest.

## References

- [1] Abo el. S., S. Islamic art and Islamic elements and its role in spreading the values of the Islamic religion [text], 2018.
- [2] Abdel-Gawad, Tawfiq Ahmed. History of Islamic Architecture.
- [3] Abu Ghanima, Ali. "The City of Amman." In Generation of Pioneers of Architecture, Yarmouk University Publications, Jordan, 2002.
- [4] Alashari, D. M., Hamzah, A. R., & Marni, N. "The Journey of Islamic Art Through Traditional and Contemporary Calligraphy Painting." International Journal of Islamic and Civilizational Studies 6, no. 1 (2019): 1-14. <https://doi.org/10.11113/umran2019.6n3.342>
- [5] Al-Tamimi, S. "Ural Federal University." Master's thesis, Amman Mosques of the late XX - early XXI century, 2020, pp. 141-144.
- [6] Atelier White. "Naji al-Hashimi Mosque in Amman, Designed in 2011." URL: <http://www.atelier-white.com/ar/services/%d9%85%d8%b3%d8%ac%d8%af-%d8%a7%d9%84%d9%87%d9%85%d8%b4%d8%b1%d9%8a-2/>
- [7] Jones, Owen. The Grammar of Ornament: A Visual Reference of Form and Colour in Architecture and the Decorative Arts - The Complete and Unabridged Full-Color Edition. Princeton University Press, 2016. URL: <https://doi.org/10.1515/9781400882717-011> pp. 154-173.
- [8] Mahmood, S. Islamic Architecture in Pakistan to 1707. Doctoral dissertation, University of Edinburgh, Edinburgh, United Kingdom, 1981.
- [9] Marzuk, M. A. Islamic Art, its history and characteristics [Islamic Art, Its History and Characteristics]. Baghdad: Unknown publisher, 1965. (C. 9, 10, 12).
- [10] Tuvaini, Ali. Architectural Modernity in Amman. Amman, Jordan, 2010.
- [11] Othman, Rosniza & Zainal-Abidin, Z. J. "The Importance of Islamic Art in Mosque Interior." Procedia Engineering 20 (2011): 105-109. <https://doi.org/10.1016/j.proeng.2011.11.144>
- [12] Islam. Ornament in the visual culture of Islam, Available from: <https://islam.ru/content/kultura/31083> (accessed Friday, November 1st, 2024).
- [13] Sacred meanings of Islamic ornamentation Available from: <https://islamtoday.ru/obsestvo/obrazovanie/sakralnye-smysly-i-slamskogo-ornamenta/> (accessed Tuesday, November 5 st 2024).
- [14] Vlasov, V. G. "On the definition of the concept of 'Decorative' in various types of fine art." Architecton: izvestiya vuzov, no. 26 (June 2009). URL: [http://archvuz.ru/2009\\_2/16](http://archvuz.ru/2009_2/16)
- [15] Vlasov, V. G. "Ornament." In New Encyclopedic Dictionary of Fine Art, vol. VI, pp. 517-524. St. Petersburg: ABC Classics, 2007.
- [16] Zakariy, M. The Art of Islamic Calligraphy. 2015. URL: <http://www.zakariya.net>
- [17] Zahra, Fatima, and Safrizal Bin Shahir. "Spiritual Aesthetics of Islamic Ornamentation and the Aesthetic Value in Islamic Architecture." Journal of Islamic Thought and Civilization 12, no. 1 (2022): 164-175. <https://doi.org/10.32350/jitc.121.08>