

Spiritual values between theological symbolism and design globalization in the contemporary mosque architecture

Associ. Prof. Dr. Diaa-Elden Mohamed Amin Tantawy

**Associate Professor of Interior Design, Interior and furniture design Department,
Faculty of Applied Arts/ Helwan University**

diaatantawy@hotmail.com

Lect. Noha Essam El Din Mohamed Ali Khamis

**Lecturer of Interior Architecture, Interior Design Department, Faculty of Arts and
Design/ MSA University**

noha.essam8511@gmail.com

- Abstract:

The mechanisms of expression in the art of design are the mechanisms of delineating the creative system of the design output; as a method of the cognitive ability characterized by the act of the creative designer, which is known as the ability to resemble as when the designer finishes his design action, he reaches a poetic language standing between the truth and the metaphor. The expression is a physical form of design, a state of manifestation of obscure, hidden, or omnipotent objects, meaning that it has its entire existence in the world of values and ideas and has no physical or morphological entities represented by the expression, in the sense of its partial representation in the real world. Symbol and Indication.

In this sense, the spiritual values of the Islamic theology have become a heavy material for the design of the contemporary mosque, and the debate over the lack of objective and conceptual perception of the factors related to the traditional mosques and its effects on contemporary mosque architecture has become the responsibility of the designer. The mosque is influenced by the morphological and decorative factors, to what is more influential in the formulation of the contemporary mosque of spiritual values and moral signs, which are expressed in detail through the mechanisms of symbolic expression with modern trends in keeping up with the Architectural design's globalization as a whole. The Islamic architecture and the especially architecture of the mosques, had lots of trends that have varied interpretations within the concept of the architectural style according to a set of vocabulary, which focused on them, some of them touched the style of shape and form in a limited way, and some went deeply in the research and extrapolation of the morphological aspect of the expression of faith and theology in its full concept in the shadow of the globalization. Hence, the problem of the research is based on the dialectic of the dispute over the contemporary architecture of the mosque between the dominance of the style system in terms of the form and morphological embodiment of the traditional mosque and the symbolic embodiment of the spiritual values emanating from the Islamic theology in the context of design globalization as a common expression language. This confirms the existence of an intellectual and design crisis as a result of neglecting the role of non-traditional solutions in the possibility of expressing spirituality. The research also aims at uncovering the effectiveness of the symbolic appearance of values and hidden messages behind the design, and monitoring the factors influencing the design of the contemporary mosque from design data and spiritual values related to the faith and creed. The research includes a theoretical study based on a descriptive and analytical approach to the concepts of research axes, and an

applied study that includes the study of models of contemporary mosques in a variety of styles to investigate the effectiveness of the expression mechanisms using the symbol in the embodiment of spiritual and ideological values in line with design globalization, while not forgetting the morphological characteristics of the Islamic model of the mosque. The research concludes with applicable conclusions and recommendations by drawing up a list of design standards for the design of the contemporary mosque.

Keywords:

Mosques Architecture – Theological Symbolism – Design Globalization – Spiritual Values – Morphological characteristics – Symbolic Metaphor.

- ملخص البحث:

يعد التعبير شكلاً مادياً في التصميم وهو حالة من الإظهار لأمر غامضة أو خفية أو كلية الوجود بمعنى أن لها وجودها الكلي في عالم القيم والأفكار وليس لها كيانات فيزيائية أو مورفولوجية تمثلها فيأتي التعبير بمعنى التمثيل الجزئي لها في عالم الواقع، ويتراوح التعبير بين الإفصاح المباشر وبين الرمز والإيحاء.

ومن هذا المنطلق صارت القيم الروحانية للعقيدة الإسلامية مادة دسمة تشغل المصمم المنوط به تصميم المسجد المعاصر، وأصبحت جدلية الخلاف قائمة حول قصور التصور الموضوعي والمعرفي للعوامل المرتبطة بعمارة المساجد التقليدية وتأثيراتها في عمارة المساجد المعاصرة من خلال آليات التعبير الرمزية ذات التوجهات الحديثة الماكنة لعولمة التصميم المعماري ككل. فبعضها تطرق إلى الطراز بمحدودية الشكل والتشكيل، وبعضها تعمق في بحث واستقراء الجانب المورفولوجي الرمزي المعبر عن العقيدة بمفهومها الكامل في ظل العولمة. ومن هنا تتحور إشكالية البحث في جدلية الخلاف القائم حول توجهات عمارة المسجد المعاصر بين سيطرة المنظومة الطرازية من حيث التجسيد الشكلي والتشكيلي للمسجد التقليدي، وبين التجسيد الرمزي للقيم الروحانية المنبثقة من العقيدة الإسلامية في ظل العولمة التصميمية ك لغة تعبيرية مشتركة. مما يؤكد علي وجود أزمة فكرية وتصميمية نتيجة إغفال دور الحلول غير التقليدية في إمكانية التعبير عن الروحانيات. كما يهدف البحث إلى الكشف عن مدي فاعلية المماثلة الرمزية للقيم والرسائل الخفية وراء التصميم، ورصد العوامل المؤثرة في توجهات تصميم المسجد المعاصر من معطيات تصميمية وقيم روحانية متعلقة بالعقيدة، والتي تسهم بشكل ما في ترسيخ الصورة الإيجابية المثالية للعقيدة الإسلامية ونشر القيم الإنسانية التي يدعو إليها الدين الحنيف. ويشتمل البحث علي دراسة نظرية قائمة علي منهج الوصف والتحليل للمفاهيم الخاصة بمحاور البحث، ودراسة تطبيقية تشمل دراسة نماذج لمساجد معاصرة بأنماط متنوعة لتقصي فاعلية آليات التعبير باستخدام الرمز في تجسيد القيم الروحانية العقائدية بصورة تواكب العولمة التصميمية مع عدم إغفال عوامل السمات المورفولوجية للطراز الإسلامي للمسجد. وينتهي البحث بنتائج وتوصيات قابلة للتطبيق من خلال وضع قائمة بالمعايير التصميمية للمسجد المعاصر.

- الكلمات المفتاحية:

عمارة المساجد – الرمزية العقائدية – العولمة التصميمية – القيم الروحانية – السمات المورفولوجية – المماثلة الرمزية.

Research problem:

The problem of the research focuses on the dialectic of the conflict over the contemporary architecture of the mosque between the control of the style system in terms of the form and configurative embodiment of the traditional mosque and the symbolic embodiment of the spiritual values emanating from the Islamic faith in the context of the design globalization, as a

common expression language. Which confirms the existence of a crisis of thought and design as a result of neglecting the role of non-traditional solutions in the possibility of expressing spirituality.

Research Aims:

The purpose of this research is to uncover the effectiveness of the symbolic appearance of hidden values and messages behind the design, and to monitor the factors influencing the design trends of the contemporary mosque from design data and spiritual values related to the faith and theology.

Research Significance:

The significance of the research is that it is one of the studies that aims to strengthen the symbolic factors affecting the design of the contemporary mosque, and focuses on the mechanism of the embodiment of spiritual values in design with attention to the functional, technical and environmental aspects that accompany the globalization of design.

Research Methodology:

The research includes a theoretical study based on a descriptive and analytical approach to the concepts of research axes, and case studies of selected models of contemporary mosques in a variety of styles to investigate the effectiveness of the expression mechanisms using the symbol in the embodiment of the spiritual values of the ideologies in a manner that goes along with the design globalization without forgetting the morphological characteristics of the Islamic model of the mosque. The research concludes with applicable conclusions and recommendations by drawing up a list of design standards for the contemporary mosque.

1- Theoretical Study

1-1 Architectural Elements of Mosques Design: The mosque design model

The style is defined as "the set of distinctive features of each space", or in a more comprehensive sense is "the style or method by which the architectural space is formulated in functional and formative terms."¹ The mosque design model includes several features that are extrapolated and materialize through both the morphological and the symbolic dimension.² The mosque was the most important building in Islamic civilization, so it was taken into account the consistency of its architectural elements such as the harmony of the minaret and the dome as well as the consistency of the entrance with the minaret, windows and ornaments of the facades, therefore Muslims paid great attention to its design, and the most important elements of its formation, such as the nave of the mosque that accommodates the largest number of worshipers, followed by ablution, and surrounded by porticos to protect people and worshipers from the heat of the sun, Also the Mihrab or Qibla that heads to the Kaaba and on its side the Minbar, and the seat of reciting Quran. Minarets also occupied special importance for some parts of the design, such as the corners of the place of worship from the mosque. Structural elements also appeared in the ceilings and walls, and Muslims used Arabic calligraphy as a tool for decorating mosques. The distinctive architectural elements of the mosques revolved around:

- **Minarets:** The minaret is one of the most important elements in the mosque's architecture. The height of the minaret is usually subject to the architectural formation of the mosque with harmony in the rates of disparity between it, the dome and the dimensions and facades of the mosque, which suggests to the viewer the homogeneity and consistency of the structure. The

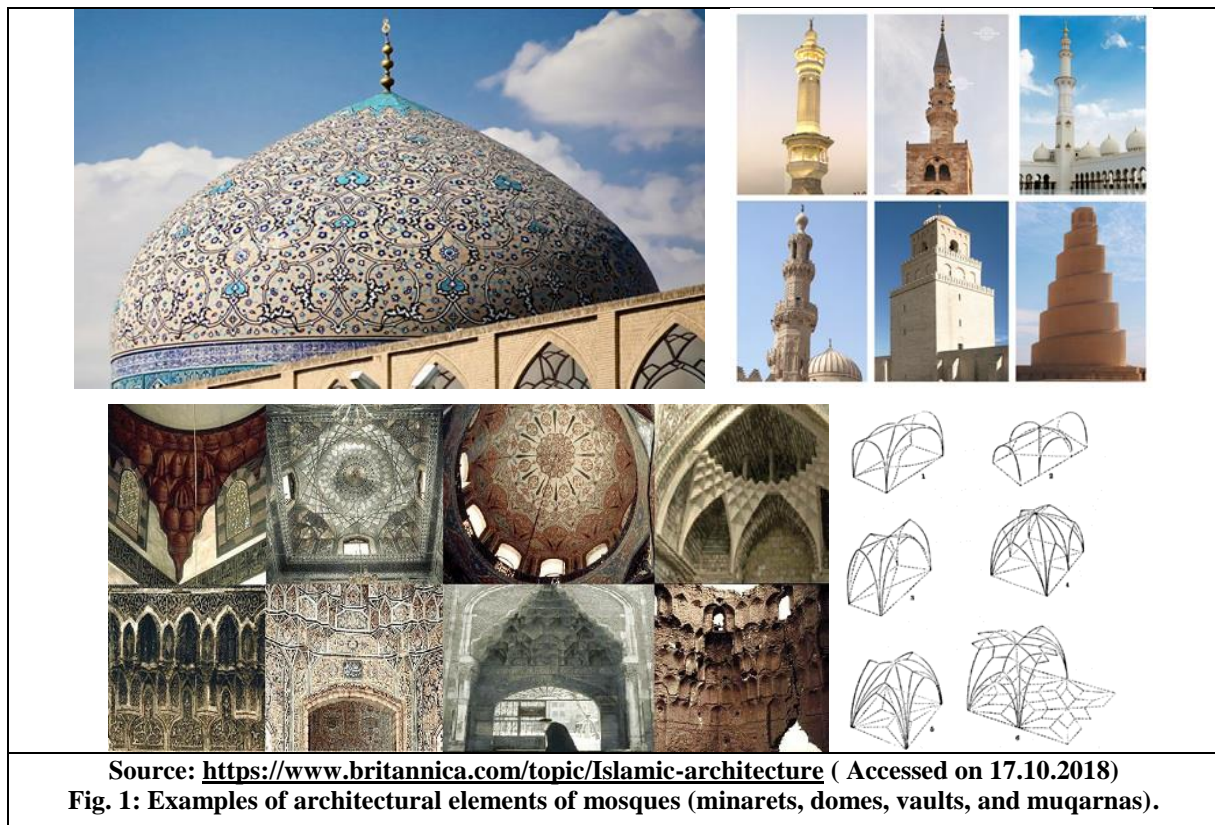
minarets in the first Islamic era were square-striped to the first balcony, and then they continued to be square or octagonal, followed by an octagonal or circular shape and ending with a small dome.

- **Domes:** The dome was known specifically in the mosque's architecture during the Umayyad era, as it was not known during the era of the Prophet Muhammed (Peace be upon him) or in the days of the caliphate, and in all the periods that followed, the dome was a symbol and an essential element in the mosque's architecture. The domes in the first era until the end of the eleventh century AD were small, and their use was limited to cover the places in front of the mihrab, then their use spread to the shrines, they were used to facilitate the transition from the square to the octagon, and then Muqarnas pendants, originated in the early fourteenth century AD and started to be used in all domes.

- **Vaults:** Islamic architecture defined various types of vaults that were used in mosques architecture in general such as: the pentagonal vaults, the semicircular vaults, the vaults decorated with muqarnas, and the pointed vaults.

- **Muqarnas:** Muqarnas is a structural element with structural sources and origins. The muqarnas is composed of a series of downward triangular projections, and connecting tiers of segments. It is a form that embodies the ideals of Islamic civilization, its physical form, characterized by fluidity and replication, is based as much on Islamic theological principles as it is on the more mundane principles of structural engineering.³

From the foregoing, it is clear that the mosque model system has gradually become exposed to both the concept of the formal style, the mechanisms of morphological incarnation, and the symbolic dimension that deals with the mechanism of expressing the spiritual, cultural and human values related to the Islamic faith in the form of a dialogue language that is capable of evolving and adapting to time.



Source: <https://www.britannica.com/topic/Islamic-architecture> (Accessed on 17.10.2018)

Fig. 1: Examples of architectural elements of mosques (minarets, domes, vaults, and muqarnas).

1-1-1 Morphological Characteristics of Mosques Design

The morphological characteristics of the mosque design are based on the organization related to the shape, dimensions and layout, and the coordination of the mosque's spaces, including the proportional relationships between the prayer area as a basic component in the mosque and the rest of the components in the mosque's architecture such as the entrance, the minaret, and the the nave of the mosque. This is in addition to the detailed decorative treatments that include geometrical and plant motifs and patterns, in addition to employing Arabic calligraphy and writing arts. Morphological features were affected in the model phenomenon by several factors; it is sometimes centered around the time period and historical factors, sometimes it focuses on the spatial regions, and at other times it is biased to the structural and constructional characteristics, so the style of the multi-pillar mosque appears, and also the roofed mosque with domes, or with the central dome. The importance of the nave or the prayers space has emerged as a major component in the classification of the mosque's style as the contrast appeared in the main components of the mosque in terms of the horizontal projection, dimensions, and methods of construction, size and height, were all the cause of the emergence of; Arab style, Seljuk, Mughal, Indian and Ottoman style.⁴

1-1-1-1 Factors affecting the morphological characteristics of the mosque's architectural style

Several factors contribute to a significant difference in the architectural style of mosques throughout the ages, which are divided into:

- **The Dogmatic Factor:** The mosque represents a symbol of the Islamic faith, and from this standpoint, this factor affected the model system by achieving the concept of direction in design, which intends to impose some legal determinants in planning the prayer hall according to the ideological preference in the first rows, which necessitated the elongation of the prayers space parallel to the Qibla wall. The rectangular, trapezoidal, and circular shape are all longer rows. This is in addition to some of the controls that define the cosmic orientation of prayer halls towards Mecca, which is represented by the mihrab, which establishes the symmetry of the mosque around its central axis, the minaret, the place of ablution, and some spirituality represented in the minbar and the minaret as a vertical element that represents the connection between the sky and the earth. In addition to adopting some other design treatments such as raising the ceilings within the axis leading to the mihrab, and placing a dome in front of it, all of which contribute to enhancing direction with an original ideological motivation.⁵
- **The environmental Factor:** The environmental factor includes both the cultural, historical, and cultural heritage that is interpreted as the process of taking and quoting from the other with modification and development. Which confirms the flexibility of Islamic thought in adopting ways to communicate between civilizations in a way that benefits. It is also affected by the nature of the climate and the geographical nature of the construction site. Which resulted in four basic models:
 - **Arabic style:** which was characterized by the square or rectangular shape of the prayer hall, and it included many styles such as the Umayyad, Abbasid, Andalusian, and Fatimid.
 - **Iranian style:** which was distinguished by the emergence of the central courtyard surrounded by four iwans from the same prayer hall.

- **Ottoman style:** The Ottoman architecture was influenced by Byzantine civilization, as reflections of the Hagia Sophia Church appeared on the space of the prayer hall, as it represented a central hall with a large dome, and several smaller domes graduated from it.
- **Indian style:** which was influenced by the Hindu temple with its modification to suit the Islamic faith, and was characterized by solitary prayer retreats, sculptural formations and decorative arts in the morphological structure.⁶
- **The Symbolic Factor:** Mosques associated with distinctive historical and religious events are classified as symbolically sacred mosques in order to enhance the event that has been associated with them. Examples of these mosques are the Dome of the Rock, the Prophet's Mosque, and the Al-Aqsa Mosque. The absolute symbolism in the Dome of the Rock mosque is shown to mark the incident of Israa' and Mi'raj, where the mosque's layout was marked by the octagonal centralization that represents the ceremonial event in which the design was deviated from the familiar, as it is the first mosque to adopt the octagonal shape in its structure, and the finishing materials used in it like the gilded dome worked to stimulate perception of the sensitivity of the incident from a doctrinal point of view, by noting to rise to the top in a constant search for the Absolute.⁷
- **The Constructional Factor:** which guarantees the possibility of horizontal expansion of the mosque, and the treatments of the elements of the mosque as a whole, which appear from the construction system used in the mosque's architecture. The constructional differences appear as follows:
 - **The Multi-Column System:** The structural system in the architecture of this type of mosque is characterized by flexibility and the ability to expand, where the ceiling of the prayer hall is flat and carried on spaced columns.
 - **The Four-Iwans System:** The iwans constitute four support axes.
 - **The Three Domes System:** in which the domes were carried on columns with decorations.
 - **The One-Dome System:** in which the central design is adopted, where the dome appears as a cover for a large area of the prayer hall without columns or any visual obstacles.⁸

1-1-2 Symbolic Characteristics of Mosques Design

Symbolic Characteristics of the Mosques Design are related to the conceptual idea, context of meaning and message originating from dogma in the first place. It rises to represent a kind of symbolic analogy that is expressed physically in the architectural entity of the mosque.

1-1-2-1 Factors affecting the symbolic features of the mosque's architectural style

The design treatments that are related to the symbolic and moral factors in the architectural design of the mosque are based on the foundations of formation and details that support the mosque as a design entity, and contribute to confirming the means of communication, affiliation, and familiarity with the space. These factors include:

- **The Aesthetic Factor:** which revolves around the idea of consistency, the beauty of formation, and the balance inherent in the essence of design through design treatments that ensure that of interest in proportion, dimensions, and aesthetics of decoration that are depended on geometric properties that include: repetition, self-similarity, golden ratio, central or rotation, handling human scale as a prominent element in design treatment.⁹
- **The Spiritual Factor:** The idea of monotheism in the Islamic faith is represented in the space of the mosque as a symbol of the doctrine, so the mosque is an ideological aspect in the

embodiment of the faith through space, time, and matter. Monotheism is the essence of Islam, for God is the only one to whom the matter is due, and the creature in all cases does not deviate from the divine will. Islamic architecture represents the architecture of unity, where the decoration is of unified and sequential configurations in a tonal rhythm that deepens the feeling of absolute spirituality throughout the space of the mosque. Spiritual aspects of design are formed through the physical elements that are employed in surfaces or in the elements of distinct space, and through proportions and iterations that adopt the principle of abstraction in divine realities, which reflects spirituality and transforms visuals into non-visuals in a manifest state of reverence and absolute tranquility.¹⁰

1-2 Design Globalization in Contemporary Mosque Architecture

The number of Muslims increases with the spread of Islam around the world, which leads to increased demand for Islamic buildings such as mosques and Islamic centers. Mosques play an important role in Islam and the lives of Muslims. In many foreign countries, mosques are seen as a newcomer who considers the type of building unique and foreign to locals not accustomed to the visual expression of Islam in the West. The mosque is one of the most visual expressions of Islamic religious identity in the non-Islamic context. Each mosque has its own character. The most important factors behind this variation in form and styles can be divided into natural effects such as; local materials and the environment, followed by human-made effects for Muslim immigrants, colonialism, financing, laws, culture, and traditions.

The spatial fusion that the idea of globalization seeks to root, not only reflected on the contemporary mosque in everything related to design mechanisms, but rather skipped that to become preoccupied with what is and what was the design itself. What became of the mosque's architectural designer is not only to preserve the identity of the design by entrenching its intellectual or symbolic roots, but also to revolve around the spiritual values transmitted by the Islamic faith in light of that design globalization that imposes simulation of reality with renewed cultural contents.¹¹

The contemporary designs of the mosques have been affected by the dimensions mentioned previously with regard to morphological or symbolic features of the mosque's architectural style in a way that resulted in the emergence of new design patterns for the mosque in light of globalization, they were classified into groups according to the extent of their influence in one or more dimensions compared to the other, as follows:

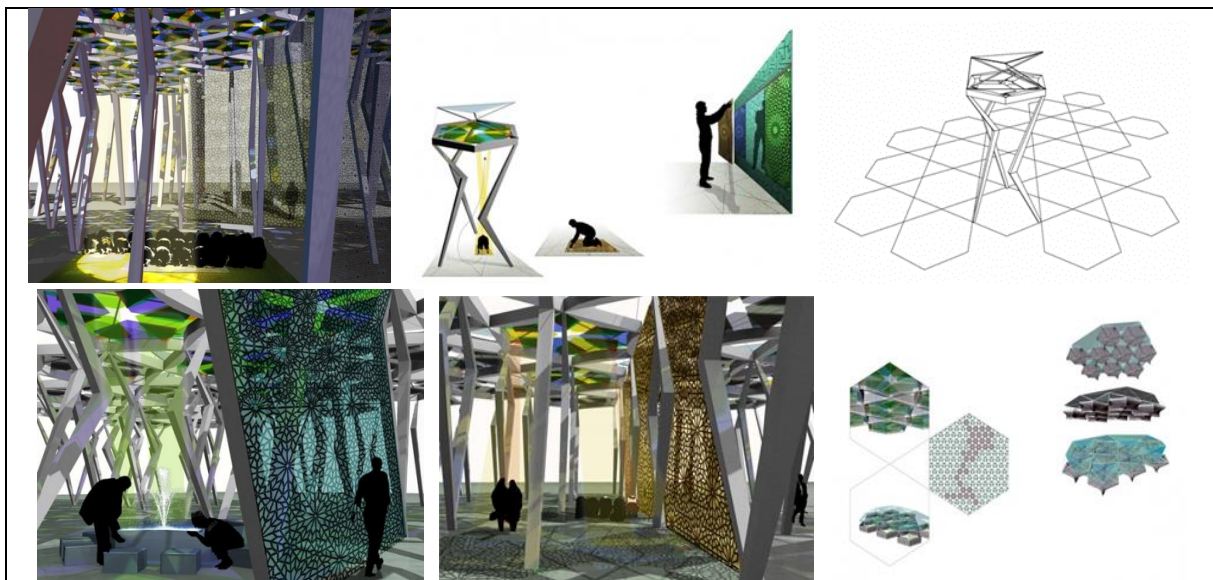
1-2-1 Non-Physical Mosques

The designs of these mosques are characterized by functional and symbolic flexibility. The mosque is a flexible space influenced by environmental, social and cultural conditions, in which the building embodies the flexibility of the faith, so it moves from being a space with its basic components of a the nave, the prayer hall, and the Qibla wall to being an effective space for symbolic principles carried by the Islamic faith. The structural framework of the mosque is formed in that case based on the symbolic concepts emanating from each of:

- **The Concept of Direction:** which was meticulously achieved in the proposed model of the Generic mosque, where the design proposes conceptual architectural rules that can be adapted and changed for the designs of mosques, defining the mosque as an area of performance, moving away from stylistic criteria, while re-interpreting the historical elements of the mosque, and proposing ways to group learning and interaction between Islamic and non-Islamic

contexts, sub-cultures, and religious practices.

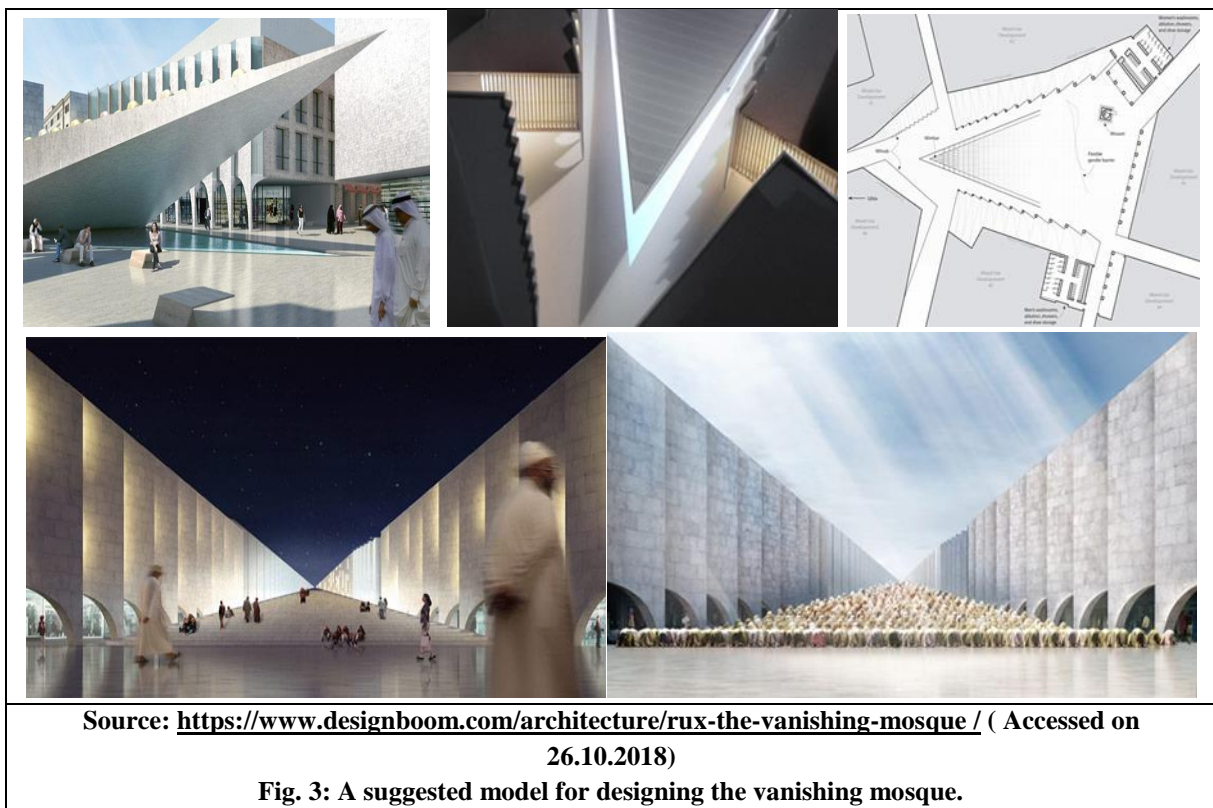
The proposal includes an idea that an unlimited honeycomb floor plan can be expanded and adapted to any site. This system is derived from an Islamic geometric pattern, in which the surface, façade and walls are made of hexagonal elements in three different sizes, depending on spatial use. Each shape supports a roof of three columns in the form of an "umbrella", and a conical formation of columns directed towards Mecca to confirm the direction of the prayer. In this way, the entire space takes on the function of the mihrab. As for the profile, the columns form the crystal-like shape for patterns of different sizes and intertwined with each other, as the hexagons of the ceiling carry colored elements sensitive to light and shade, which can display different patterns on the ground according to the position of prayer rugs hanging on the façade, allowing a variety of use inside. By using prayer rugs, the worshipers transform the façade, thereby creating different levels of transparency in the sense that the ritual act in the creed or its complementary rite would stimulate the sensors on the ceiling and influence the colors. Various visual barriers will be created between the male and female prayer sites through textiles. This allows gradual space arrangements depending on the size of the community and its gender arrangements. In general, the building is affected by the formation of columns by scales and decorative details that support the direction, in which it is noted that, despite its adherence to the original concept of direction, it has deviated from the traditional construction of the mosque space from walls and partitions, and relied on roof formations in groups consistent with floor formations equipped with sensitive color sensors. It changes according to the position of the worshipers, this is in addition to the symbolic sign in which the color element was also used, in which the audio symbol indicating the start of the prayer was converted to a visible symbol.¹²



Source: <http://act.mit.edu/projects-and-events/publications/the-generic-mosque-design-principles-for-mosque-design/> (Accessed on 26.10.2018)

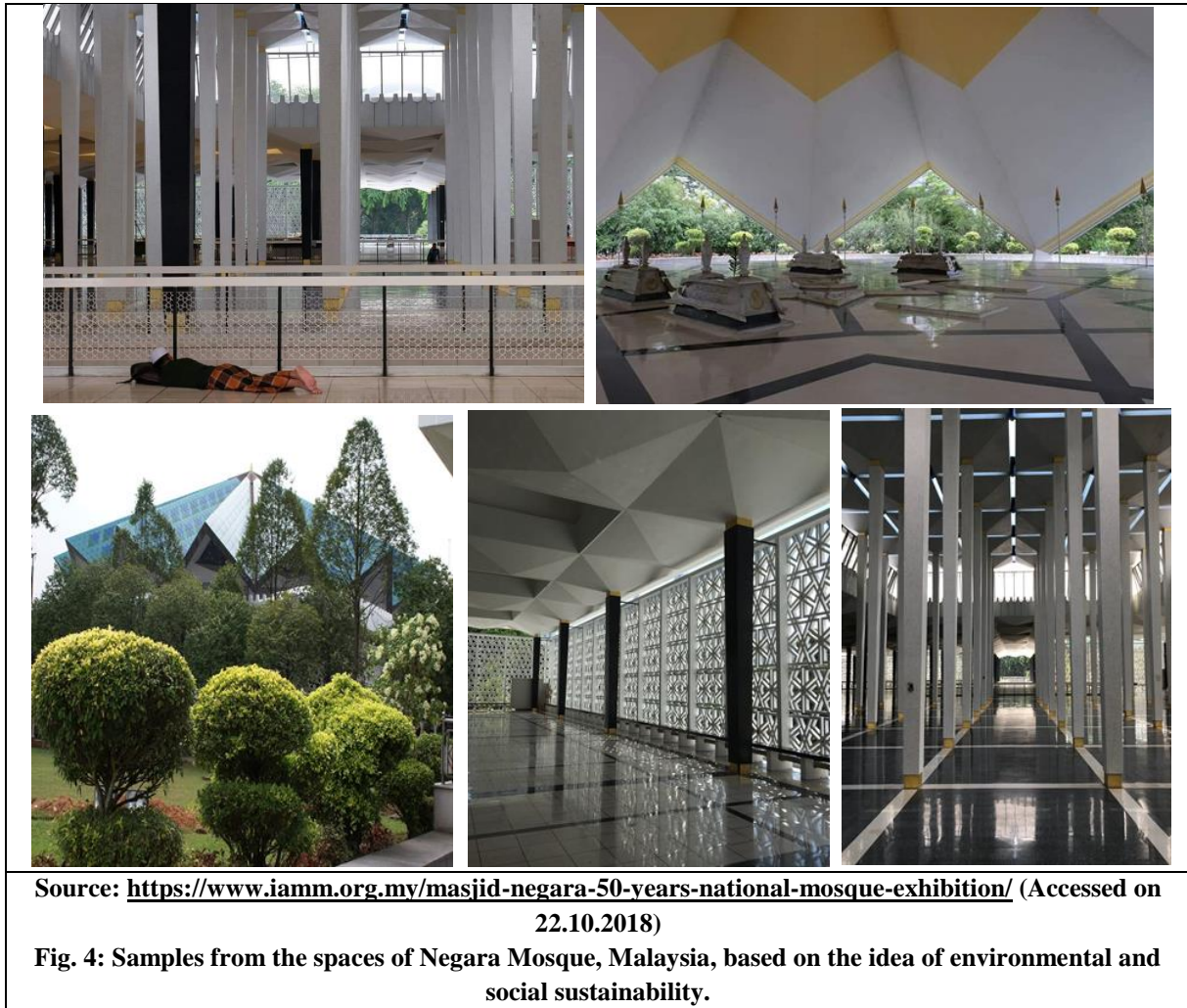
Fig. 2: Suggested model for designing the general mosque that explain the design idea starting from the hexagonal formation as a pattern for the mosque and the interaction of the ceiling as a design elements with the prayers rugs.

-The Concept of Infinity: It is one of the intellectual and symbolic principles rooted in Islamic belief that was expressed in the most accurate form in the Vanishing Mosque, which assumed the melting of the boundaries between the interior and exterior, and enriched the principle of functional and visual interaction. The design idea for this proposal is based on the idea of the temporary presence of the topic on the basis of its relevance to the event. Consequently, a mosque was intruded as an integral part of daily life, and it was not isolated as a separate building to express continuity and communication between the Creator and the creature at all hours of the day. By the name of the vanishing mosque, it was meant that the mosque would be liberated, and that all functional barriers would disappear through it, meaning that it would engage in the city and be integrated with it. It was addressed by several factors that would stimulate the spiritual experience that was based on employing many sound and visual effects, in a way that enhances the drama of the ideological event.¹³



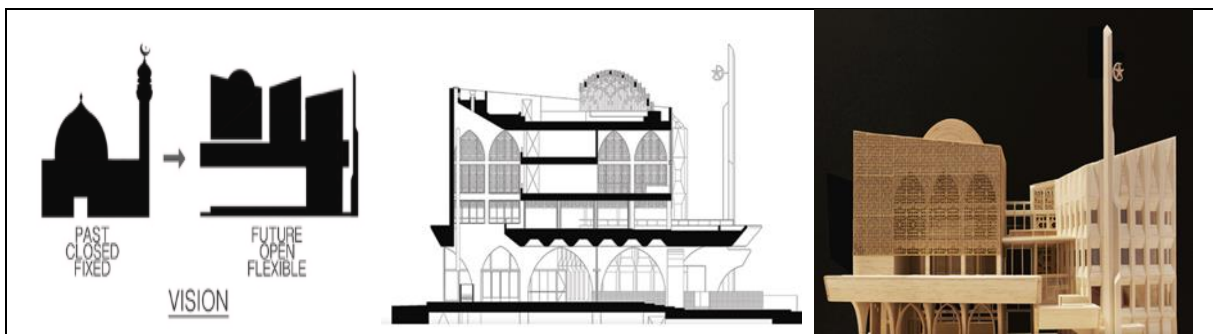
1-2-2 Sustainable Mosques

The design idea of these mosques depends on environmental and social sustainability, including working to enhance the image of Islam. Negara Mosque in Malaysia contains several indicators of sustainability, in combining the mosque's overall function with both religious and secular aspects, where it represents many life and social activities that include spaces with multiple purposes such as the library, a lecture hall, and a restaurant for the needy, while separating the prayer hall to respect the privacy of worshipers. With regard to sustainable treatments, the climate has been taken into consideration, so the rain water and solar properties of the site have been utilized, and the roofs have been treated accordingly, and the surrounding agricultural areas have also been used as a source of food that is prepared in the restaurant for people in need.¹⁴



1-2-3 The Staged Mosque

These mosques are designed according to the aesthetic and spiritual aspect of design, as their design is related to the concept of beauty in Islamic architecture, and it focuses on simplicity, consistency in appearance, and compatibility in composition.¹⁵ The Islah Mosque in Singapore is a good example of this direction. It depended on the use of Islamic motifs. The planning treatments of the mosque were characterized by the smooth embodiment of the spiritual vocabulary of the belief by expressing openness in the dialogue between peoples and civilizations by allowing for visual communication.¹⁶





Source: <https://www.archdaily.com/773123/al-islam-mosque-formwerkz-architects> (Accessed on 22.10.2018)

Fig. 5: Examples of the spaces of the Al-Islah Mosque in Singapore, which are based on the symbolic analogy of aesthetics and absolute spirituality in design, while preserving simplicity and consistency of the architectural form.

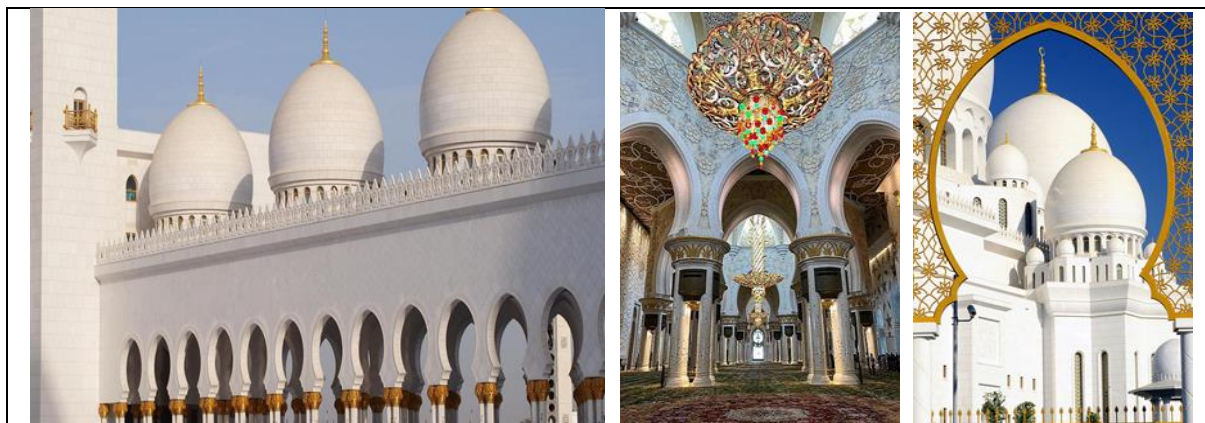
1-2-4 Technological Mosques

The design ideas of these mosques are based on the technical or technological component, and how to take advantage of modern means to transmit an impact, or to inspire a new idea, or to create a new logic that is appropriate to keep pace with the information revolution and modern technology. Several patterns have emerged that follow these ideas, such as:

1-2-4-1 Transplanted mosque

These mosques are characterized by adherence to the elements of the traditional mosque, such as domes, and the Minarets as well-established symbols in the mosque's architecture that enhance the understanding of Islamic identity, and in which authentic architectural symbols are employed in a new image that enjoys modern technology in structural, constructional and decorative formation. Examples include the Sheikh Zayed Mosque in Emirates, in which architectural symbols based on the Moroccan style in the form of domes, the Ottoman style in Minarets, and the Indian style in the distribution of the three domes over the prayer hall, were inspired by the goal to reformulate these symbols in an innovative and technological way.¹⁷



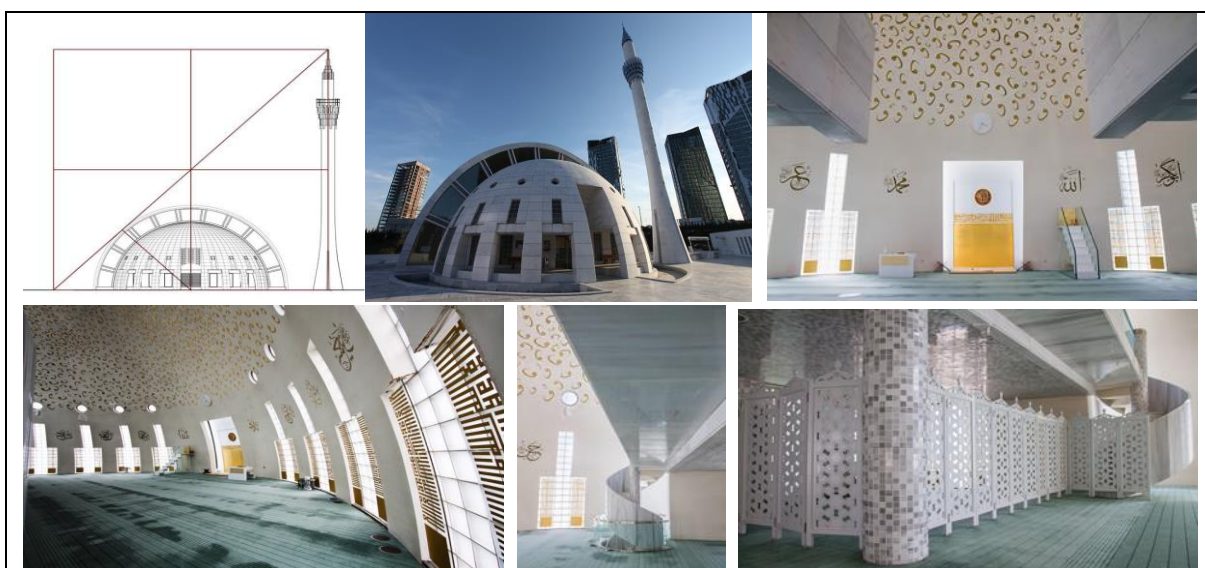


Source: <http://www.muslimheritage.com/article/sheikh-zayed-great-mosque-abu-dhabi-islamic-architecture-21st-century> (Accessed on 24.10.2018)

Fig. 6: Model of Sheikh Zayed Mosque Emirates, which belongs to the category of transplanted mosques, in which several models are combined and reformulated by modern and innovative means.

1-2-4-2 Urban Mosques

The design philosophy of these mosques is based on the acceptance of the Islamic thought of the other and the culture of the other. It is aware of the technological development that occurred, and how to take design as a way to enhance contextual adaptation through the technical treatments offered by the times. These mosques show commitment to some of the formal elements of the mosque, while allowing flexibility to adapt to the technological environment. Urban mosques are often described as multi-functional Islamic centers, and they are often a model resulting from Muslims residing in the urban localities of the world looking for similar groupings of culture, identity and social relationships. Examples of those mosques include the Yesil Vadi Center in Istanbul, whose primary goal was to find a place dedicated to establishing religious rituals in an atmosphere of familiarity, coexistence and openness between cultures.¹⁸



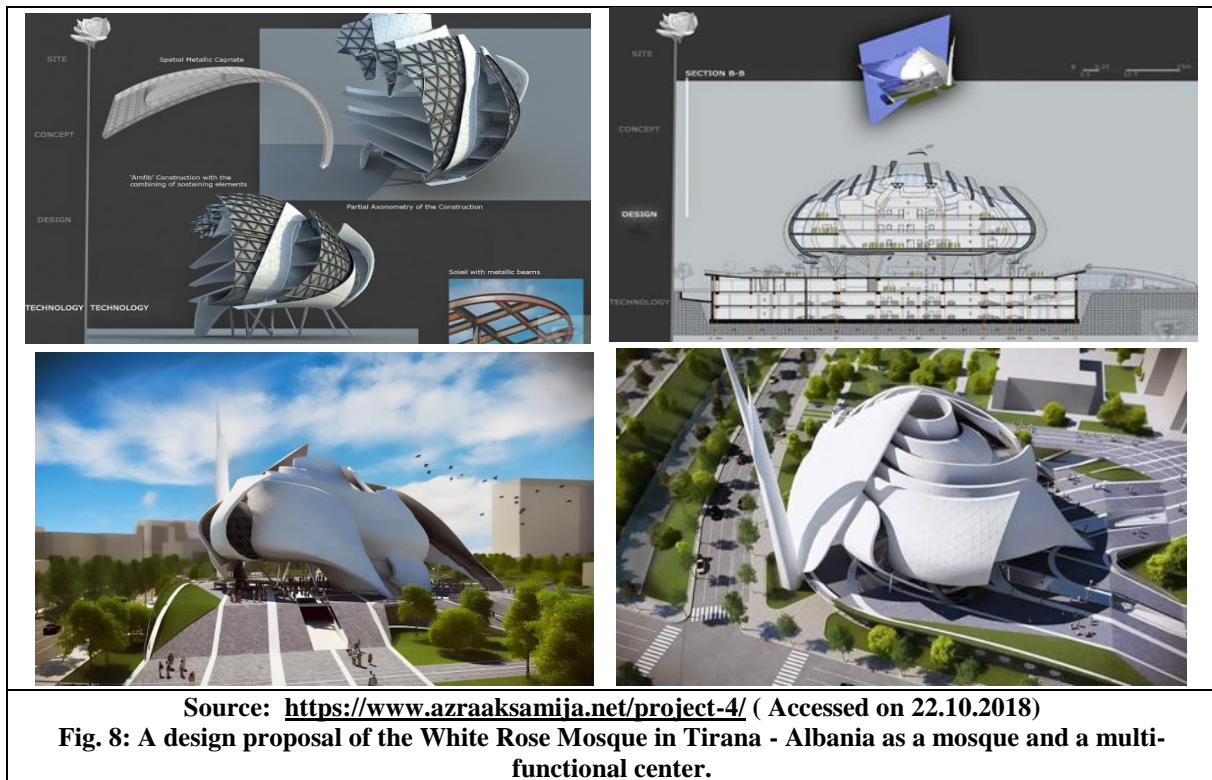
Source: <https://architizer.com/projects/yesilvadi-mosque/media/1380568/> (Accessed on 18.10.2018)

شكل (٧): تصميم المسجد والمركز الإسلامي يصيل فادي بإسطنبول والذي يظهر التزاما ببعض العناصر الشكلية للمسجد مع إتاحة المرونة في التكيف مع المحيط التكنولوجي.

Fig. 7: The design of the Islamic Center Yassil Fadi in Istanbul, which shows commitment to some of the formal elements of the mosque, while providing flexibility in adapting to the technological environment.

1-2-4-3 Unfamiliar Mosques

The architecture of these mosques is subject to conceptual designs related to culture, designer perceptions and aspirations, climate, and contemporary technology. New materials and interactive mechanisms are used in the design to rediscover architectural expression. This quality included several design proposals for mosques, such as the White Flower Mosque, which is unique in design, as it does not contain any traditional element associated with the mosque's style system, but rather focuses on the spiritual dimension and focuses on the fundamental essence of the doctrine.



2- Applied study

2.1 Case Studies

Case studies included three different models that varied between contemporary mosques and design proposals for mosques based on the embodiment of spiritual values emanating from the doctrine and theological aspects, according to the different directions that were mentioned in the research.

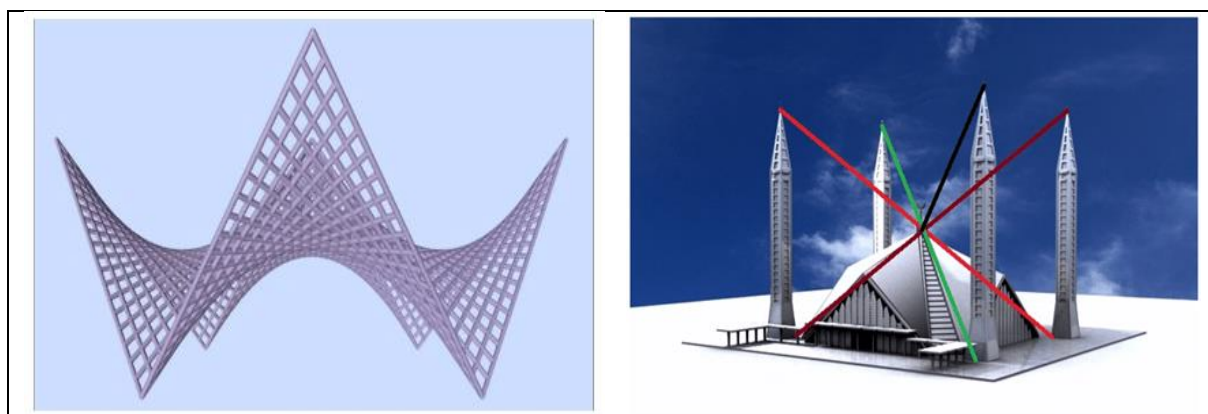
2-1-1 Case Study One: Shah Faisal Mosque, Islamabad - 1986

Shah Faisal Mosque in Pakistan is a recent representation of the religious monument due to its design uniqueness in the architecture, and it was devoid of domes as an essential architectural element in the composition of the mosque. The mosque occupied a central position in the social and religious life of Muslims. It is not only a place of worship where rituals are performed, but also a social place where Muslims participate in social welfare activities. The mosque architecture is distinguished by local and international monuments representing the spiritual, economic and aesthetic factors in a unique and harmonious organization.

The conditions for the establishment of this mosque date back to 1966 when King Faisal bin

Abdulaziz, Crown Prince of the Kingdom of Saudi Arabia, visited Islamabad in Pakistan, where he proposed to the Pakistani government to finance the construction of a huge mosque bearing his name, and a competition was held to select the best designs for the mosque until the design was assigned to the Turkish architect Vedat Dalokay, who was the first winner of the competition, completed the implementation of the mosque in 1986.

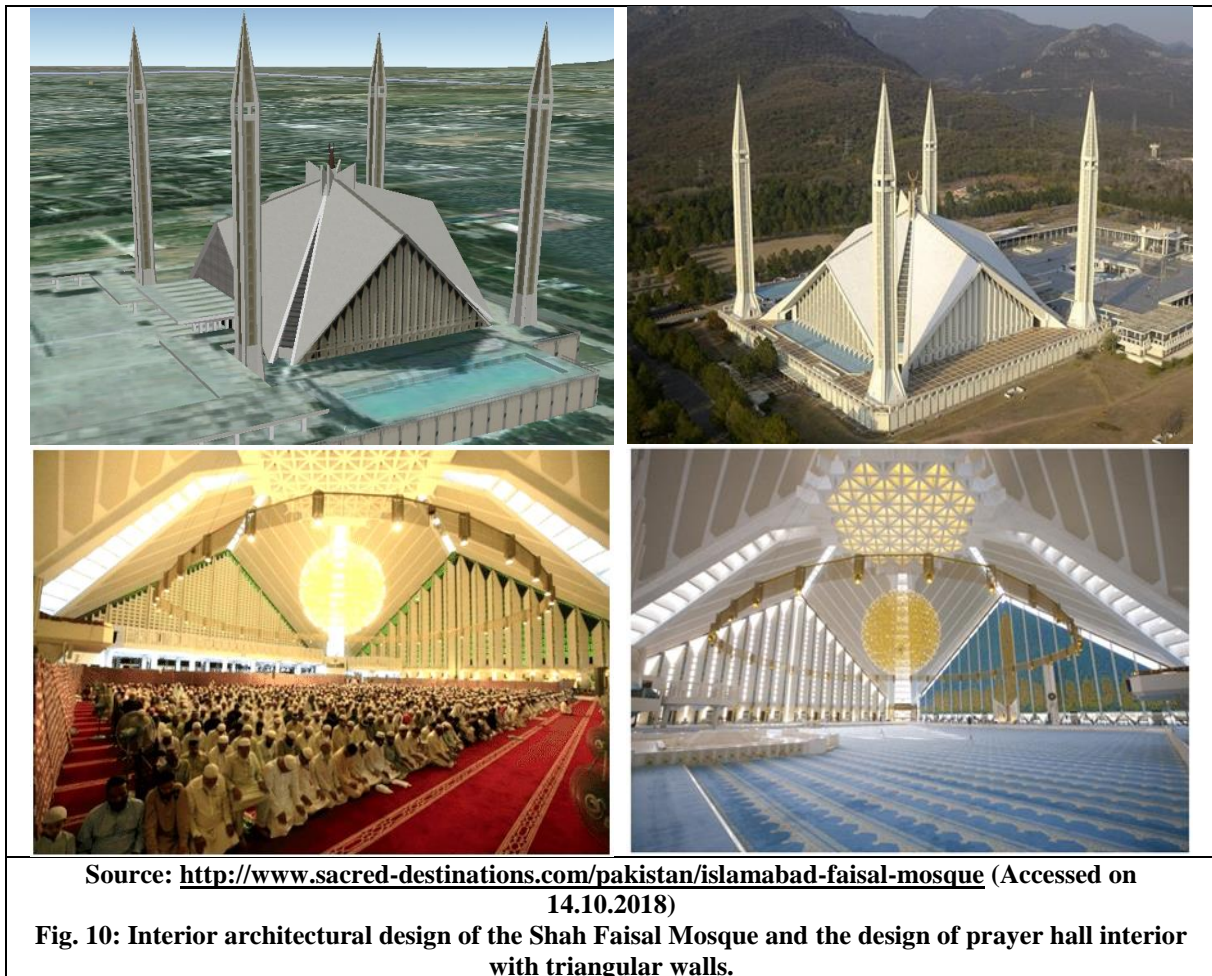
- Design Concept: The architect, Dalokai, revealed his design idea, saying, "I tried to capture the spirituality of the Holy Kaaba in a purely abstract way." He imagined the top of the four minarets as a deliberate layout of the four corners of the Kaaba in an invisible composition. The unusual mosque design is a departure from the history of Islamic architecture in South Asia, and it is a clear idea to combine contemporary lines with those traditional lines in the appearance of an authentic Arab Bedouin tent.



Source: <http://www.sacred-destinations.com/pakistan/islamabad-faisal-mosque> (Accessed on 14.10.2018)

Fig. 9: Design concept of Shah Faisal Mosque which is based on theological values in the invisible composition of Makkah Al-Mukarramah, and the original Arabian tent form.

Faisal Mosque represents a modern stage of architecture and design in the form of construction and surface decoration with gold leaves of clear aesthetic values. Its architectural features are characterized by the dominant white color which gives a bold impression against the nature of the distinctive colors of the mosques. The mosque is characterized by spatial openness, adequate natural lighting and ventilation in the main hall. The mosque has national and international acclaim due to its unique design despite its lack of dome. It was also noted, according to the descriptive analysis, that the mosque plays its religious and social role successfully. The architect focused his attention on creating something new, combining abstraction and spiritual symbolism, as the ceiling was designed according to the harmony and continuity of the lines. The white structure of the mosque was also highlighted by adopting the color contrast with the surrounding olive hills as an ecological nature.²¹



2-1-2 Case Study Two: Al Irshad Mosque - Indonesia 2010

The Al-Irshad Mosque in Indonesia was completed in 2010 by the architect Radwan Kamel. This mosque is another example of mosques that lack the dome as a distinctive element in traditional mosque architecture. The mosque is considered a model for the application of the tectonic architecture, which depends on the unity of the structural aspects with the architectural and aesthetic character so that the structural and technical thought cannot be separated from the symbolic, expressive and creative factors. Where the compact stones were used as a main facade to create a tectonic effect, with Islamic texts and Arabic fonts included on the facade as a formative element in the reminder of prayer and verses.

-Design Concept: The basic shape of the mosque takes the form of a square, where it appears to be the most efficient, as Muslims pray in straight rows facing the Qiblah. The structural columns have been arranged so that the facade appears to be not supported by any frame. This figure also refers to the Kaaba in a symbolic, abstract way, which is the most important structure in the Islamic world, and to which the prayers of all Muslims are directed, and the mosque contains a minaret, and the mosque was designed to accommodate approximately a thousand people, and it was taken into account that the design is in line With nature, the stones allow natural ventilation and are also surrounded by water to moisten the mosque in hot seasons, in addition to a sense of visual contact with nature through seeing the water during the establishment of religious rituals as a spiritual value manifested in this pleasant scene of the eye.²²



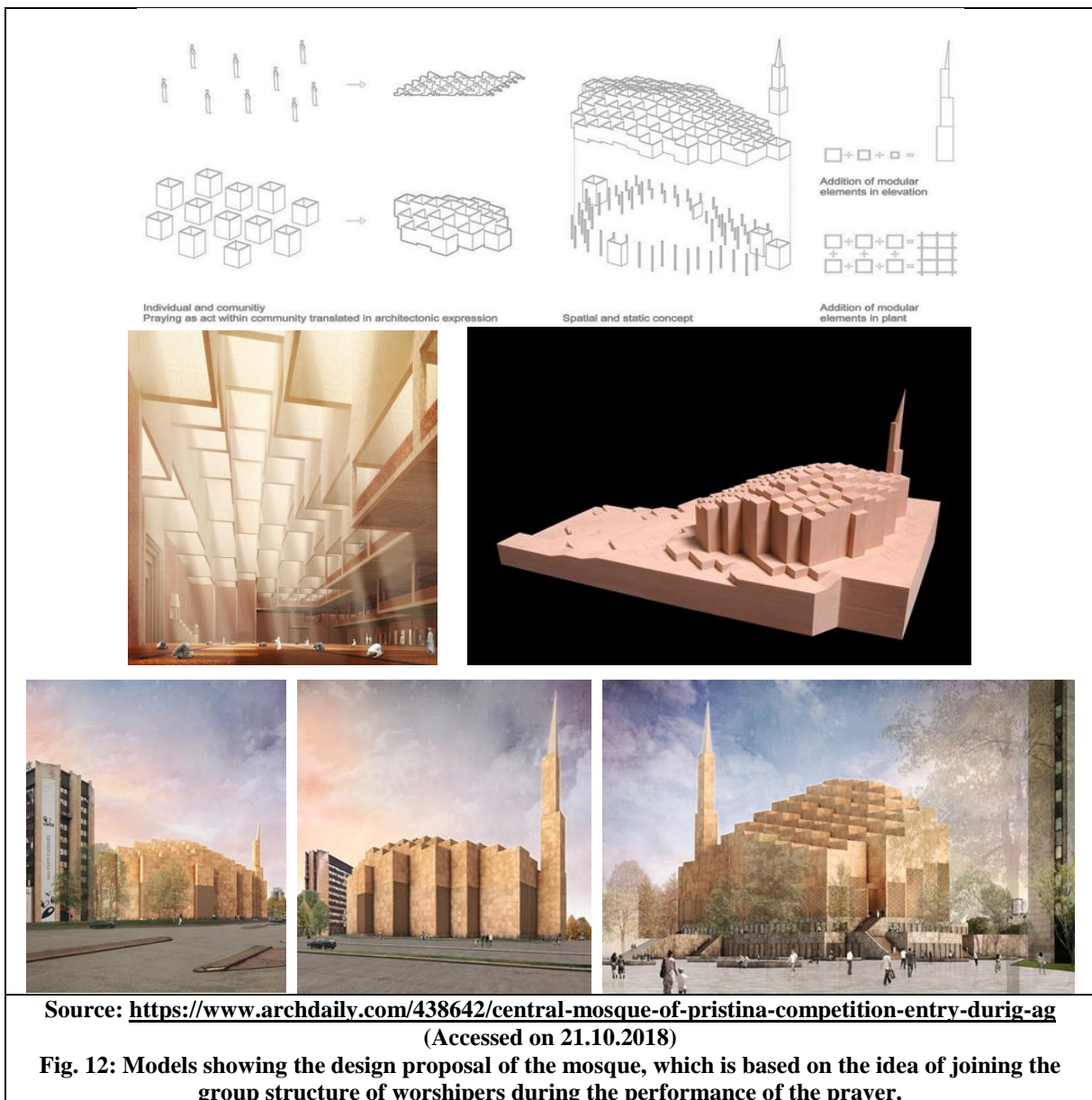
2-1-4 Case study Three: Design proposals submitted for the establishment of a mosque in the province of Kosovo (architectural competition)

The territory of Kosovo is the pure Islamic spot that suffered in the last century of injustice and oppression by the Serbian state, after years of struggle, the region gained its freedom after the intervention of the peace-keeping forces, and since then Muslims in Kosovo have been trying to build and develop this spot and highlight its Islamic heritage. The lack of space for prayer in Pristina led the municipalities to seek a place in which "understanding, humanity, tolerance, respect, and sincere love are cultivated, and where enlightening values are presented and given their pride in the Islamic heritage and their honorable history, they began building a large mosque and Islamic center in the provincial capital (Pristina) to be a new symbol for them, and for this reason a great architectural competition was held aiming at establishing a new central mosque in the country's capital, and revolutionary ideas appeared in the world of mosque design that were not familiar, in which the designers tried to move away from the Islamic traditional forms and try to attention to the spiritual aspect of design while also preserving the functional aspect, eighty one design proposals have been submitted and the first position has not been announced yet. Examples of these proposals include:

2-1-4-1 A A design proposal submitted by Zurich-based architecture

The proposed sponsors envision that the new mosque will serve as means of individual interaction with society. Mosques are places of worship for the Islamic community, where a single believer joins a larger body to do worship and pray in a group celebration. The individual elements unite to make them larger and more visible as a symbolic representation of the individual in the Islamic community in Kosovo.

-Design Concept: This design derives its idea from the general form of prayer, where the engineering system of worshipers in the rows and the interaction between them, and the barrier between them and the sky disappears to create the required spiritual state. Hence the shape of the building appears as rows of worshipers on a hill joining together to form a single block or structure that has no barrier between them and the sky. Natural daylight descends quietly through the architectural blocks, creating a unified prayer hall. Holes are installed throughout the facade and the interior planks to create a state of visual transparency, to create a dialogue between individuals within the mosque and pedestrian city.²³



Source: <https://www.archdaily.com/438642/central-mosque-of-pristina-competition-entry-durig-ag> (Accessed on 21.10.2018)

Fig. 12: Models showing the design proposal of the mosque, which is based on the idea of joining the group structure of worshipers during the performance of the prayer.

1-2-4-2 A design proposal submitted by the Tarh O Amayesh Foundation

This project is supposed to be located in an urban area with natural terrain. This site gives the project great importance as it highlights the identity of the place to link different levels of the city. The side that led to the interest in linking the project parts from inside and outside and maintaining the dynamic flow in the formulation of the various activities of the mosque from religious, cultural and social activities. The parts of the project have been linked in a way that helps the air flow and provide natural ventilation, which helps to save energy.

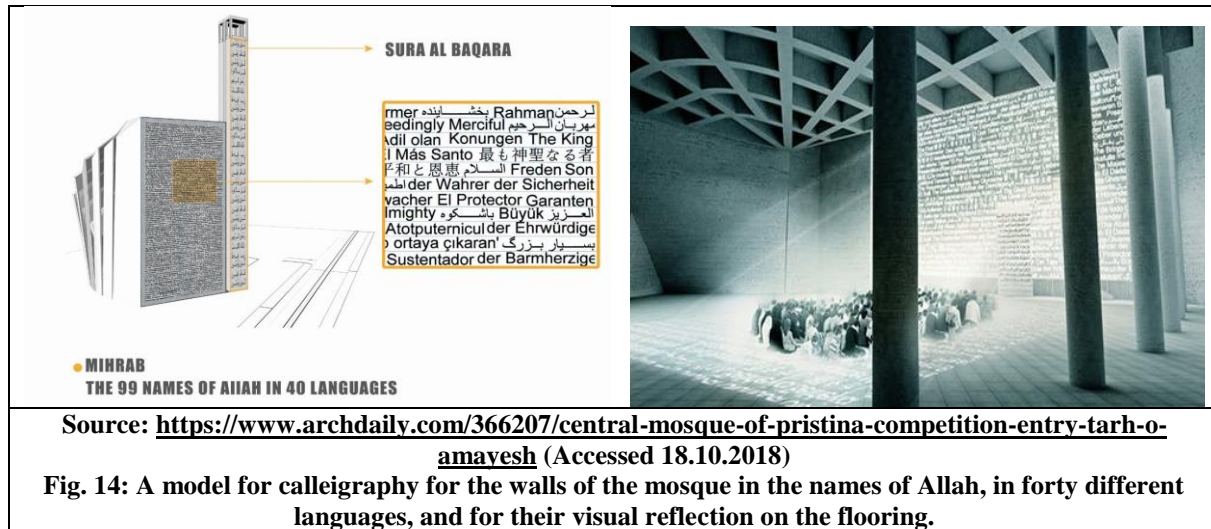
- Design Concept: Establishing the basic principle of the design proposal from the definition of the mosque itself as a place of prayer centered on the spiritual value in the transition from the physical body to the connected soul above, and based on the idea of progression in the spiritual degree that the worshiper experiences according to the degree of reverence in prayer and the performance of rituals. Prayer is the ritual that connects the earth to the sky, the creator to his creatures, and the body to the Spirit. The mosque has adopted several concepts represented in the direction, function, decorative formation, aesthetics, and sustainability creating a space for all of these architectural concepts, hence the shape of the building came from a lower level to a higher level where the minaret and the Qibla together. It also creates the imagination of a mosque climbing from the ground into the sky. It has been considered that some of the arenas (open and green spaces) are designed in the southern, northern and eastern part of the project to support the transition from the city to the mosque, or from this world to the spiritual space as a kind of symbolic analogy stemming from the spiritual and theological value of the Islamic faith.²⁴



Source: <https://www.archdaily.com/366207/central-mosque-of-pristina-competition-entry-tarh-o-amayesh> (Accessed 18.10.2018)

Fig. 13: Examples of the design proposal for the mosque in Kosovo, showing the design concept based on the idea of spiritual advancement and the ascent from the physical world to the spiritual world.

The symbolic minaret appears beside the writings ascending in the form of a transition to the sky. The minaret is 103 meters high. The mosque has been provided with elevators to enjoy the panoramic view of the city. The names of Allah, are written in forty languages, as well as written motifs on the walls, which their shadows reflected on the sites of prostration in the prayer area, in a wonderful scene.²⁵



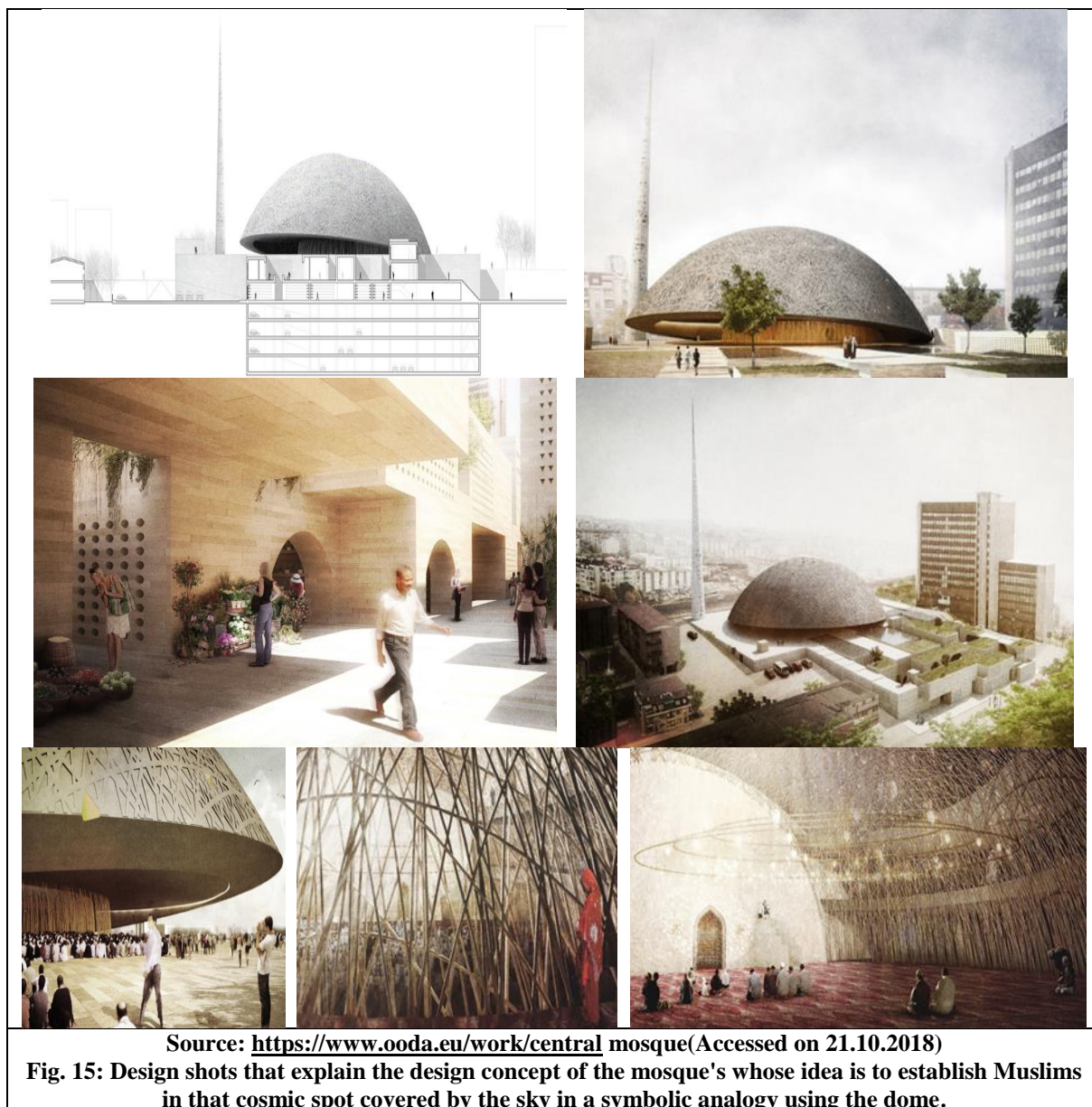
Source: <https://www.archdaily.com/366207/central-mosque-of-pristina-competition-entry-tarh-o-amavesh> (Accessed 18.10.2018)

Fig. 14: A model for calligraphy for the walls of the mosque in the names of Allah, in forty different languages, and for their visual reflection on the flooring.

2.1.4.3 A design proposal submitted by the OODA Foundation

The design proposal seeks to mediate the complex balance of the program with a historical form and a new language for spiritual vocation through symbolic abstraction and a rich set of materials as the competition calls for a distinctive sign in the exploitation of landscapes that can be used as both an urban and social guidance device, but are woven seamlessly in the existing urban environment.

-Design Concept: The dome is usually a symbolic expression of the sky, and it takes a more active role as a protective element in the prayer space, and is expressed in double form by exaggerating its visibility as a central component of the mosque. According to the Gestalt School's principles of design; the principle of visual continuity and perpetual motion is nothing more than a delicate transition from secular space to a region dedicated to establishing believers in the universe. Instead of the traditional Qur'anic writing, the walls of the worshiper consist of an inner network that creates light to the place of open prostration while embodiments of spiritual relationships appear in a form related to the symbolic sky. The dome is complemented by a conical aperture of a minaret, both of which are based on architectural blocks that are covered in green color from the spaces designated for social activities and educational programs. As in many mosques, the architecture function replaces purely religious purposes, and instead, chooses to participate and unite society, the stone-clad network of corridors and multiple-use retail areas appears inviting for people.²⁶



Research Results:

The research concludes with a set of results that include the following points:

- The variables of the functional, aesthetic, environmental, spiritual, symbolic and ideological system are the most influential in the formulation of the contemporary mosque.
- The study of the factors affecting the symbolic features of the archeological system of mosques is no less important than the study of the factors affecting the morphological features, each complement the other and affect the formation of the architectural output in terms of form and content.
- Non-traditional architectural approaches to mosques under globalization rely on the formulation of the spiritual values associated with the faith in a symbolic form adapted to the techniques and different cultures.
- The architectural trends of the mosques in the era of globalization are bold in delivering the mystery even if the recipient senses the inconsistency of their instruments at first sight.

- The characteristics associated with the ideological factor emerges through the multiplicity of centers related to the effects of light and connection with nature and cosmic movement.
- The symbolic metaphor of spiritual values in design is manifested in the formative formulation of the worshiper than in other architectural elements.
- The absence of some architectural elements in contemporary mosques such as domes does not diminish the aesthetic values as it can be replaced by other mechanisms of expression appear in the reservoir of the spiritual and symbolic purpose of design.
- The symbolic metaphor plays a big role in the design of the mosque in the formulation of the idea to be expressed and the spiritual value emanating from it.
- The effects of the symbolic factor and the technological factor are inseparable and are used through the application of design treatments that give the message a civilized formula that corresponds to modernity.

- Research Recommendations:

- The research recommends paying attention to the study of modern trends in the design of contemporary mosques and familiarity with morphological and symbolic factors in design.
- The research recommends focusing on the formulation of spiritual values in the design of mosques which suits the means of symbolic expression on the foundations of the doctrine and its principles in line with design globalization.

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