

# Investigating A Spiritual Aesthetic within Islamic Patterns in the Interior Design of Hotel Rooms

DOAA FATIHADDIN, BOB EVES, MOAMAR GASHOT

**Doaa Fatihaddin**, PhD scholar, Bournemouth University; **Dr. Bob Eves**, Senior Lecturer, Bournemouth University; **Dr. Moamar Gashot**, Lecturer, Bournemouth University.

## Abstract

Numerous modern hotels have been built in the holy cities of Saudi Arabia to accommodate the large number of pilgrims who come to connect with their spirituality and to worship near the Grand Mosque (Sacred Mosque) in Makkah and the Prophet's Mosque in Medina. Typically, hotels are designed using predetermined models, rather than designs that express the Islamic identity of the area. They also ignore the preferences of the pilgrims who come seeking a spiritual atmosphere. These are common due to either lack of communication or short deadlines in which to conduct the design process. Consequently, this research aims to address the designers' and pilgrims' needs by proposing a design strategy and visual perspectives that will help enhance the spiritual aesthetic of hotels with Islamic patterns. Analysing the shape grammar of Islamic patterns to identify their ideology will aid in selecting the most appropriate pattern to use and will contextualise the spiritual aesthetic from the pilgrims' perspective, thus determining the standard criteria necessary to evaluate the Islamic pattern design. It will also demonstrate the theoretical framework explaining the perception of human behaviour (the spiritual aesthetic) in terms of semiotic and symbolic interaction theories. Finally, developing a design strategy that enhances the spiritual aesthetic of Islamic patterns will be used with a qualitative philosophy and ethnographic strategy to collect data through structured and semi-structured interviews. The results of this research will contribute to current scholarship by broadening the literature in the field of interior design and revealing the strategies and theories of the spiritual aesthetic.

## 1. Introduction

For the last seven years, the Royal Makkah Clock Tower in central Makkah has overlooked Al-Kabba and al-Haram (The Grand Mosque) (Fig 1). It includes several luxury hotels managed by a famous international hotel chain (Winerman, 2011). Staying at these hotels is a dream for most of pilgrims. The Royal Makkah Clock Tower has become a landmark in Makkah. All the buildings have a strong sense of exterior and interior space, while also considering the degree to which their public and private natures are reconciled (McNeill, 2008).



Figure 1. The Royal Makkah Clock Tower overlooking al-Kabba and al-Haram

The growth rate of hotel development, as well as the real estate markets in the Arab Gulf and especially in Makkah, has been stimulated due to the region's oil riches, historical sites (Tyrrell and Mu'azu, 2008), and the numerical density of pilgrims. According to the General Organization for Statistics (GSO), which is responsible

for the implementation of the pilgrim census program in the city of Makkah, mentions the average number of pilgrims per year for the last decade was 2,393,635. This statistic includes both local and international pilgrims. A concern has arisen that international modern styles are becoming more common in response to the booming tourism industry (Tyrrell and Mu'azu, 2008). The pilgrims who come to Makkah from all over the world do so to enhance their spirituality and uplift Islamic values and culture, not for recreational tourism. Strannegård and Strannegård write that the standardized design of international hotel chains could actually make destinations less attractive by decreasing their uniqueness. They suggest that a hotel's design should be inspired by the location of it in order to increase the localization and uniqueness of the destination (Strannegård and Strannegård, 2012).

For this reason, this research aims to embody the designers' and pilgrims' needs by proposing a design strategy and visual perspectives to assist in heightening the spiritual aesthetic in hotel rooms with Islamic patterns. This will be achieved by answering two fundamental questions. First, how do the Islamic patterns in hotel room interior design at holy cities in Saudi Arabia affect the pilgrims' spiritual aesthetic? This question will address the application of interior design to enhance the spiritual aesthetic through an interior design strategy that will contribute to the current research. Second, how does the user perceive the Islamic patterns that enhance the spiritual aesthetic? This question is based on semiotic theory, which explains the relationship between objects (in this case, the Islamic patterns) and human behaviour (the spiritual aesthetic). By following standard research methodology and presenting the existing literature in aesthetic spiritual and Islamic patterns, we will further demonstrate how the current literature applies to the interior design of hotels (Fig 2). As Perolini says in Interior Spaces and Layers of Meaning article, we need to go beyond our current approaches to interior design education and look more toward human/environment interaction theories. This framework will help provide more answers for design strategy (Perolini,2011). In this research, the semiotic theory will form the basis of the discussion.

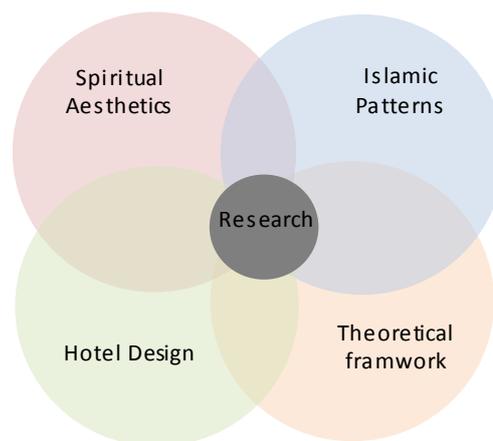


Figure 2. Research contents

## 2. Research Methodology

This research is based on a qualitative philosophy, attempting to explore the attitudes and feelings of the participant (Dawson, 2009). The research takes an inductive interpretivist approach, which means that there is an in-depth understanding of the social differences between individuals. Data will be collected through an ethnographic strategy that often includes observations and interviews (Creswell, 2014).

The methodology of observing people in a hotel room is challenging because privacy must be maintained. Therefore, conducting interviews will be used to collect data with two sequential phases: (1) analysing the existing literature in aesthetic spiritual and Islamic patterns and (2) conducting semi-structured interviews to contextualise the spiritual aesthetic from the pilgrim's perspective and to establish descriptors to determine standard criteria for evaluating Islamic pattern design. After the interviews, the researcher will analyse the data and apply the result to a 3D design. Then the researcher will present this design to the participant, validating and clarifying the participants' opinions on the design. All the participants must meet the inclusion criteria: they must be above 18 years old and they must have spent more than 3 nights in a hotel in Makkah.

The data will be extracted using content analysis and thematic analysis techniques. The researcher will design a strategy to enhance the spiritual aesthetic from the Islamic patterns based on the data collected above. In order to ascertain the practicality and efficiency of the strategy, interior design students will then propose practical applications for Islamic patterns in hotel room design.

Research Philosophies	•Qualitative
Research Approaches	•Inductive- Interpretivism
Research Strategies	•Ethnography
Data collection(method)	•semi-structured interviews
Data analysis	•content analysis

Figure 3. Research Methodology

### 3. Spiritual Aesthetics

This study makes new contributions in that it focuses on enhancing the meaning of spirituality found in Islamic patterns and symbols. Therefore, an understanding of the meaning of spirituality is one of the study's main aspects. Even so, the definition of spirituality can contain various meanings. It does not belong solely to religion since at times it refers to the meaning of life or to principles or beliefs (Sheng and Chen, 2012). Although spirituality is related to feelings towards God and worship or towards life, both meanings have both an inward and outward motivation. For example, the inward motivation is praying and the outward motivation is meditation (Groff and Smoker, 1996). This study will focus on outward forms of inspiration, such as art and design, to enhance the spirituality based on theoretical perspectives.

The reasons for focusing on enhancing spiritual aesthetics within Islamic patterns at hotel rooms in Makkah are divided into two parts. The first part regards the focus on the meaning of spiritual aesthetics. Makkah is the capital of Islam, where the Sacred mosque (Al-Haram Al-Sharif) and Al-Kabba are located. Al-Kabba is the first house of Allah set on the Earth, built by Ibrahim (peace be upon him) and his son Ismail (peace be upon him). It was constructed in Makkah before the birth of Islam and has been rebuilt many times. At the time of Islam, it has been the facing direction for Muslim prayer. Al-Kabba symbolizes a spirituality and worship for all Muslims (Salman,2012).

The second part is the reason for choosing the Islamic pattern. Al-Kabba is covered with a black silk fabric decorated with Islamic calligraphic and geometric patterns. The Islamic pattern symbolizes the spiritual aesthetics in Kabba. Nasr has strongly supported this view, saying:

*“Traditional Islamic art conveys the spirituality and quintessential message of Islam through a timeless language which, precisely because of its timelessness as well as its direct symbolism, is more effective and less problematic than most of the theological explanations of Islam. Islamic art could not perform such a spiritual function if it were not related in the most intimate manner to both the form and content of the Islamic revelation.”* (Nasr, 1987 pp195)

### 4. Islamic Patterns

Throughout history, Islamic art is the most widespread, second only to Chinese art. The Islamic Empire once extended from India and central Asia to Andalusia in the West, and from the Caucasus and Sicily in the north to Yemen in the south. And in Iraq, the centre of Islamic Civilization, Islamic art has thrived (AlSaqr, 2003).

Calling it Islamic art does not mean that it only belongs to Muslim artists; many scholars mention the work of Islamic art produced by non-Muslim artists as well. It is an art for all religions but is characterized by an Islamic identity. It is a symbol that efficiently carries the message of Islam. Islam in the Arabic world means peace—peace on various levels, internal peace of the soul, and outer peace with the other. Islamic art brings peace and tranquillity to the person and imparts a spiritual feeling to the soul (Osweis, 2002).

Islamic art has gained its beauty through the calligraphic or the Arabic script, floral decoration or Arabesque, and geometrical patterns (Fig 4). Mostly, a single work or object is decorated with a combination of these three things. Islamic art can be in two dimensions, as most works are—walls, doors, ceilings and carpets—or it could exist in three dimensions, as in the columns. In this study, the researcher is focusing on the two dimension geometrical patterns to enhance spirituality.

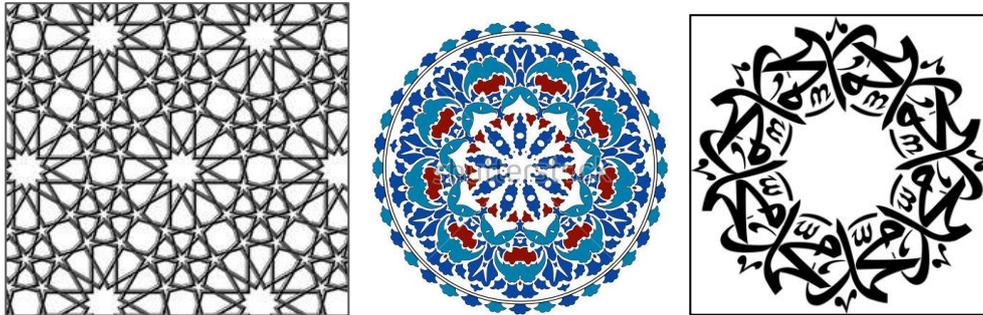


Figure 4. geometrical patterns , floral decoration and calligraphic

In all conventional cultures, geometry existed and was used in the design of the earliest sacred and traditional sites. That geometry is built by following dimensions that integrate mathematical numbers, constants and ratios, such as the “golden/sacred mean” (Pennick,1994). Furthermore, geometry not only embodied the sacred by following the mathematical proportions and prime roots but also portrayed beautiful proportions (the proportions of beauty). As Aristotle stated, beauty is to “maintain the just measure”. Islamic geometry also depends on Islamic principles and the ideology of Islam; it is a relationship between Islamic art and Islamic worship. It is related to the Islamic doctrine which earned Islamic art the trait of “sacred art” (Dabbour, 2012).

Throughout the ages, Islamic art has some unifying principle that gives the same characteristics to the art over vast areas within different cultures and time (Nasr, 1987). The reason behind this unity has been searched to understand the motives that led to this outstanding phenomenon. Is it due to language or to customs and traditions? Researchers and scholars agree that the reason behind this unity is the spread of Islamic faith all over the world and the strong impact of Islamic principle on the unity of Islamic art. Unity is the core of the Islamic revelation. To embrace Islam you have to believe in unification which is in Arabic (Twhied), and bear witness that there is no God but Allah and that Muhammad is His servant/slave and His messenger. Unity is represented in much of Islamic worship, where Islam requires a single dress for performing the Hajj that makes Muslims equal according to their nationalities and classes, so that they feel awe and spirituality when looking at pilgrims. Nevertheless, Islam is not limited to worship only, but it is a method of life which extends to Social, literature and art. For example, Islam prohibits creating idols or drawing figures of people and animals . Most artists resort to using Arabic calligraphy and letters that enhance the community spiritual aesthetic. Some also turn to geometric art, causing many Islamic artists to excel in this art form (Burckhardt, 2009).

The meaning of unity is evident both implicitly and ostensibly. Ostensibly, by repeating one fundamental unit in the pattern in a coherent way that provides a sense of unity and harmony. Implicitly, the meaning of unity is symbolised by the circle, which is the main unit of these patterns and the most common shape in our environment—the universe, the sun and the nucleus that is the beginning of all creatures. It contains a circumference revolving around all constants and one centre indicates the oneness of Allah (Bier 2002; Bonner 2003; Ulu and Sener 2009). Conversely, Islamic patterns are a strong example of a unity and multiplicity which appears spatially in geometry. The circle in a geometric pattern is the base unit for all the patterns which create the six-, eight- and ten-pointed stars. The circle helps to perceive the interlaced composition as a strong unity, which symbolises the one and only God, Allah (Ulu and Sener, 2009). Nonetheless, the combination and repetition of the units in the pattern, which exhibit properties of symmetry, scalability and movement, support the philosophical aspect of Islamic faith, such as a relationship between unity and multiplicity (Jowers et al., 2010). Hence, this unity is not about material or colour that gives identity to Islamic art; it is about the philosophical characteristics of Islamic art that gives the same feeling and expressions within the same artistic and spiritual universe (Shafiq, 2014). *“This art could not perform such a spiritual function if it were not related in the most intimate manner to both the form and content of the Islamic revelation.”* (Nasr, 1987)

Moreover, geometric proportions in architectural patterns represent a design language, as words do in a spoken language. Geometrical proportions can be presented in many types of Islamic art such as calligraphy, initial elements and geometry patterns, which all follow the geometric rule as a source of Islamic art language that translates the Islamic design principle (Dabbour, 2012). It is clear that the Islamic geometry pattern has a shape grammar that can be described as the DNA of the arts and a rule-based design method (Rajagopalan et al. 2006; Ulu and Sener 2009). According to Eves and Hewitt (2009), the DNA style explains aesthetic characteristics and meanings. Therefore, the use of a semiotic conceptual approach is relevant to the understanding of symbols and part of the design. That is to say, geometry plays a primary role in Islamic grammar. From this perspective, the researcher chose Islamic art symbols to enhance the spiritual aesthetic meaning.

## 5. An Overview of Hotel Design and the Theoretical Framework

The interior design environment is cognisant of both the physical and social sciences. The physical elements carry the feeling and translate the meaning. Environmental semiology (ES) is the study of the meaning of symbolism within the social environment (Tan 2011). *“Interior designers focus on the human, the interaction of humans with their built environment, and the art or aesthetic components brought to the interior environment that must reflect the socio-psychological needs of the humans who use the space, contributing to their welfare. Overall, human environment needs are about identifying and analysing the clients’ and users’ needs from the broadest view possible so that the natural environment, context, human values, function, and aesthetics are all recognized as contributing to people’s well-being.”* (Guerin and Martin 2010) The study of ES in the field of interior design is not new and several studies have discussed the effect of symbols in interior design, including those by Guerin and Martin (2010), Jung (1964) and Rose (2004).

At the same time, design has been defined as "art with a purpose" (Lloyd-Wright, F.). Accordingly, previous definitions explain that design takes into account two aspects. First is that the design, in part, is concerned with aesthetic appeal. Second is the nature of this aesthetic appeal (West and Purvis, 1992). In this paper, the concept of the aesthetics is used to represent sensual experiences, namely the spiritual aesthetics. Gadamer states that aesthetics is a form of communication that only includes the senses and so can be devoid of meaning. They are a matter of movement that can lead to feelings of happiness, indulgence or excitement (Strannegård and Strannegård, 2012).

In the hotels which are our focus, the physical element and symbols are visibly communicated to the visitors’ senses and allude to sensory experiences. It is this fundamental that allows the hotels to succeed. As Strannegård and Strannegård mention about the manager of the Nordic Light Hotel which belongs to the (Design Hotel) group that “the hotels aim to aesthetic perfection. If the physical deterioration is allowed to decay, the image and brands will accordingly start to decay.” Accordingly, the hotel has employed a full-time designer as a kind of concept police to control the aesthetics of the hotels (Strannegård and Strannegård, 2012). In addition, some scholars discuss the relationship between hotel design and productivity, and a good design (approved by the designer and the hoteliers) can affect the hotel’s bottom line. Effective design can attract customers from the desired target market, allowing the hotel to price accordingly and operate the unit in an efficient way. (Ransley and Ingram 2001). Ransley and Ingram point out that good hotel design can be effective in both soft and hard ways. The soft factor includes image and style, which signify and communicate messages of identity.

To be more precise, as Eves (2008) mentions, *“aesthetics in design is placed under two categories: beauty and perfection; character and expression. These can be applied to design discrete and integrated design media: colour and texture; shape and form, as well as further sensual responses”*. Perfection in design, especially in interior design, is also demonstrated by Nasar to be determined by the visual quality. *“The perceived meaning of and preferences for environments have great importance, often affecting function. Visual quality has important impacts on human experience, impacts that can affect worker productivity, consumer behaviour, and the bottom line”* (Nasar, 2006). Nasar is one of many architects who are concerned about understanding and measuring the non-verbal meaning conveyed by place. This is similar to our research direction of understanding and enhancing the meaning in the hotel room.

However, in the field of interior design, no theory has been developed uniquely for interior design, but an overwhelming body of theory from related fields is available for application to interior design, and existing theories can be adapted from other disciplines—particularly architecture, the fine arts and to a lesser degree environmental psychology, other areas of psychology, and philosophy, such as gestalt, semiotic, phenomenological, narrative and symbolic interaction theory (Loustau, 1988). This study will discuss the semiotic theory to understand the meaning (spiritual aesthetic) of symbolism (Islamic patterns) within a particular social environment (pilgrims). Semiotic theories have been discussed by many experts in different fields since the 17th century, beginning with Pointstot, Peirce, Saussure, Jakobson, Morris, Barthes and continuing chronologically to Petros Martinidis (Table 1) (Johnson, 2007). The theory of Semiotics was known as the study of signs based on logic (Peirce, Eco at et al.). Besides, some researchers have described the theory of Semiotics as Semiology which is the study of signs based on linguistics (Saussure, Barthes at et al.).

Poinsot	1589-1644	Theologian
Perice	1839-1914	Logician
Saussure	1857-1913	Linguist
Jokobson	1896-1982	Linguist
Morris	1903-1979	Philosopher
Barther	1915-1980	Critic
Percy	1916-1990	Author
Sebeok	1920-2001	Linguist
Eco	present	Semiotician
Guiraud	present	Linguist
Galan	present	Critic
Chandler	present	Instructor
Martinidis	present	Architect

Table 1 . Selection theorists of the semiotics theory

Charles Sanders Peirce adopted the term semiosis and defined it to mean an "action, or influence, which is, or involves, a cooperation of three subjects, such as a sign, its object, and its interpretant, this tri-relative influence not being in any way resolvable into actions between pairs" (Fig5)(Echtner, 1999).

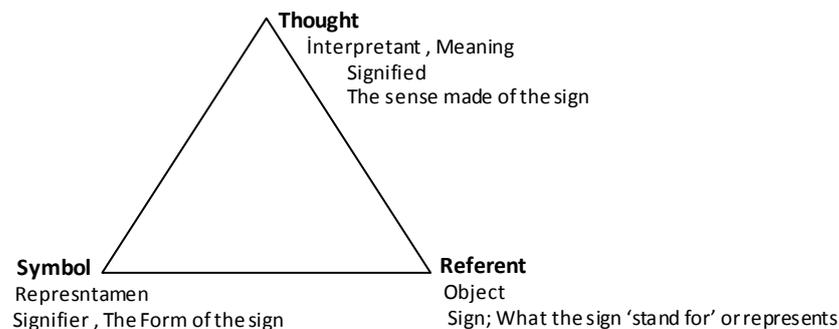


Figure 5. Semiotic Triangle

On the other hand, Saussure, linguistics defined the linguistics sign as a 'dyadic' or two-part entity: a 'signifier' and the form or the material aspect of sign. The 'signifier' is the mental concept that the form represents (Fig 6) (Cobley and Jansz, 2010). It is worth mentioning that Saussure uses the term semiology as opposed to semiotics.

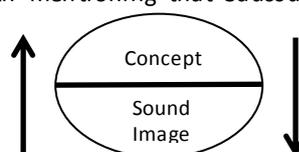


Figure 6. Saussure's Graphical representation of sign

Barthes researched how audiences interpret what they see. He said “ *if narratives are episodic this helps our reading. A chain of cause and effect is expected but the audience desire to see a story of morals ..The audience look for the signs to help them interpret the narrative.. these deeply rooted signs are based on expectations the audience has due to their prior knowledge of old tales or myths*”. The structure of the myth Sign (Fig 7)(Echtner, 1999).

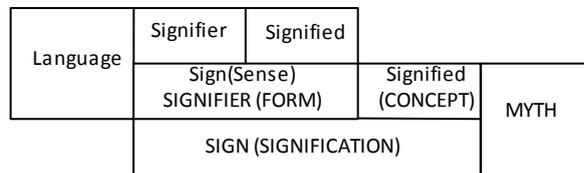


Figure 7. Barthes Graphical representation of sign

Moreover, various studies have explained semiotics and *semiology*. According to Loustau (1988) “*Semiology is the study of signs and consists of analysis of symbols.*” Also Wendy Leeds Hurwitz (1993) defines semiotics as “*the examination of symbolic behaviour.*” In addition, Eves and Hewitt (2008) *Semiotics refers to the interpretation of signs and symbols*”.

Numerous disciplines follow and apply the semiology theory. It has already influenced the thinking of a number of architects such as Charles Jencks. The concerns of the field of semiotics are summarized in the basic semiological triangle (Fig 5), which specifies a relationship between symbol, thought, and referent.

Jon Lang studied the symbolic aesthetics in architecture and mentioned that the built environment conveys symbolic meaning in subtle ways. The correspondence between a building pattern or set of patterns and what is signified has to be learned. He mentions different types of variables that carry symbolic meaning— architectural variables such as building configuration, materials and pigmentation and non-physical variables (Nasar, 1992). Based on these previous studies and data collection, the researcher will investigate the variables that carry symbolic meaning in interior design.

## 6. Conclusion

This paper is an investigation of the effects of using symbols such as Islamic patterns to enhance and affect spirituality, specifically in relation to hotel interior design.

Through the review, it has become clear that

1. There are few studies interested in aesthetic spirituality since most of the existing studies talk about spirituality from a medical or psychological perspective.
2. As for the Islamic patterns, it was valid to have a large number of studies that talk about Islamic patterns' shape grammar, but only two scholars were interested in studying Islamic patterns from the aesthetic spirituality perspective. There is as yet no study to apply this spirituality to interior design.
3. As for the interior design of the hotels from the aesthetic side, there are many studies interested in this aspect, but without a specialized sense of aesthetics from the spiritual side.

Our research will continue to reach for a design strategy to enhance spiritual aesthetics and to present the physical variables that will affect the spiritual aesthetics in interior design by using a theoretical framework and analysing the interviews of our participants.

## 7. References

1. Al-Saqr, E., 2003. *Islamic Art*. Dar Majdalawi for Publishing & Distribution, Amman – Jordan.
2. Bier, C., 2002. *Geometry and the Interpretation of Meaning: Two Monuments in Iran*. Bridges: Mathematical Connections in Art, Music, and Science, R. Sarhangi, ed. Winfield e KS, 67-78.
3. Bonner, J., 2003. *Three traditions of self-similarity in fourteenth and fifteenth century Islamic geometric ornament*. Meeting Alhambra, ISAMA-BRIDGES Conference Proceedings,. University of Granada, 1-12.
4. Burckhardt, T., 2009. *Art of Islam: language and meaning*, World Wisdom, Inc.
5. Cenani, S. & CAGDAS, G., 2006. *Shape grammar of geometric islamic ornaments*. Proceedings of the 24th eCAADe.
6. Cobley, P. & Jansz, L., 2010. *Semiotis*.
7. Creswell, J. 2014. *Research Design. International Student Edition*. United Kingdom: SAGE Publications Ltd.
8. Dabbour, L. M., 2012. *Geometric proportions: The underlying structure of design process for Islamic geometric patterns*. Frontiers of Architectural Research, 1, 380-391.
9. Dawson, C. 2009. *Introduction to research methods: A practical guide for anyone undertaking a research project*, Hachette UK.
10. Echtner, C.M., 1999. *The semiotic paradigm: implications for tourism research*. Tourism Management, 20(1), pp.47-57.
11. Eves, B. & Hewitt, J., 2008. *Semiotics, Design Character Language*. DS 46: Proceedings of E&PDE 2008, the 10th International Conference on Engineering and Product Design Education, Barcelona, Spain, 04.-05.09.
12. Groff, L. & Smoker, P., 1996. *Spirituality, religion, culture, and peace: exploring the foundations for inner–outer peace in the twenty-first century*. The International Journal of Peace Studies, 1, 57-113.
13. Guerin, D. A. & Martin, C. , 2010. *The interior design profession's body of knowledge and its relationship to people's health safety, and welfare*. University of Minnesota.
14. Johnson, S. J., 2007. *A Study of the Relationship Between Semiotic Content in Commercial Email Subject Lines and the Decision by the Recipient to Open the Message*.
15. Loustau, J., 1988. *A theoretical base for interior design: A review of four approaches from related fields*. Journal of Interior Design, 14, 3-8.
16. McNeill, D., 2008. *The hotel and the city*. Progress in Human Geography, 32, 383-398.
17. Nasar, J. L. , 1992. *Environmental aesthetics: Theory, research, and application*, Cambridge University Press.
18. Nasar, J. L., 1994. *Urban design aesthetics the evaluative qualities of building exteriors*. Environment and behavior, 26, 377-401.
19. Nasr, S. H., 1987. *Islamic Art and Spirituality*, Albany, State University of New York Press.
20. Osweis, F. S., 2002. *Islamic art as an educational tool about the teaching of Islam*. Art Education, 55, 18-24.
21. Pennick, N., 1980. *Sacred geometry: symbolism and purpose in religious structures*, Turnstone Press.
22. Perolini, P. S., 2011. *Interior spaces and layers of meaning. Design Principles & Practices*. An International Journal, 5, 165-174.
23. Salman, A., 2012. *The Scientific and Technology Analysis Approach to the Art Work and Architecture of Al Haram Al Shrif in Makkah*. Journal of Computer Science Issues, 9, p349.
24. Shafiq, J. , 2014. *Architectural Elements in Islamic Ornamentation: New Vision in Contemporary Islamic Art*. IISTE, 21.
25. Sheng, C.-W. & Chen, M.-C. , 2012. *Workplace spirituality scale design-The view of oriental culture*. Business and Management Research, 1, p46.
26. Strannegård, L. & Strannegård, M., 2012. *Works of art: Aesthetic ambitions in design hotels*. Annals of Tourism Research, 39, 1995-2012.
27. Tan, L., 2011. *A review of environmental symbology: Origins and contributions toward a theoretical framework*. Journal of Interior Design, 36, 39-49.
28. Tyrrell, R. & Mu'azu, 2008. *Islamic Architectural Heritage and the Sociocultural Environment in the Gulf*.
29. Ulu, E. & Sener, S. M., 2009. *A Shape Grammar Model To Generate Islamic Geometric Pattern*. Proceedings of 12th Generative Art Conference.
30. West, A. & Purvis, E., 1992. *Hotel design: The need to develop a strategic approach*. International Journal of Contemporary Hospitality Management, 4.
31. Winerman, A. , 2011. *Developing Mecca: A Case Study of the Royal Makkah Clock Tower*.

## 8. Figures References

Figure 1 :

<https://news.travelerpedia.net/tourism/hotels-news>

Figure 4 :

<https://www.pinterest.com/pin/427349452112586141/?lp=true>

<https://www.shutterstock.com/image-vector/turkish-plate-islamic-floral-circle-design-454924129>

<https://iraneman.deviantart.com/art/Islamic-Calligraphy-268234793>