

# Locating Patterns of Regional Mosque's Lateral Uses (With Emphasis on the Compatibility of Lateral Uses With Religious Use)\*

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## ABSTRACT

Determining the spaces and locating them in the plans are among the most important steps in architectural design of buildings. Any approach to the selection of the uses and locating them in the plan can lead to a specific architectural design. The current study aims to identify various locating patterns of the regional mosques' lateral uses. These patterns would be extracted from the opinions of those expert in mosque architecture. To achieve this objective, the lateral uses of the regional mosques are determined. Since this pattern recognition is based on the compatibility of any use with the religious use, first the criteria of this compatibility are determined through analysis of the Fatwas issued by the Maraji' (source to follow). In this regard, a close-ended questionnaire is designed and distributed among the statistical population including the two groups of the religious and architectural elites. The TOPSIS decision analysis method is used to analyze the questionnaires and to prioritize the degree of compatibility of the uses. In this regard, the criteria for compatibility of each use with the religious use are including no conflict with the dignity of the mosque and no inconvenience of worshipers. Based on these criteria, the lateral uses of the mosques are divided into four categories as highly compatible, compatible, slightly compatible, and incompatible with religious use. Then, for the determination of the experts' opinions about locating the space of each use, a close-ended questionnaire is designed and distributed among 25 people expert in mosque architecture design. The obtained responses are analyzed using the chi-square test. The results indicate that the regional mosques can be categorized into three patterns as service mosques, invocative mosques, and social-worship mosques. Regarding the type of the relationship between the locating and compatibility degrees, the desired pattern in the mosque architecture design and planning is the social-worship mosque pattern.

**Keywords:** Regional Mosque, Religious Use, Lateral Uses of the Mosque, Locating the Uses, Compatibility.

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## 1. INTRODUCTION

Determination of the spaces and locating them in the plan is one of the most important steps in designing the buildings' architecture. The capability of different functions in mosques has made it one of the most challenging parts of mosque designing. Although the time and place characteristics of each mosque can change its physical programs, the mosque architecture experts have ideas about the selection of the functions and determination of their location in the plan. Any approaches arisen in this regard can lead to designing a specific architecture of the mosque. In this regard, it is required to identify and recognize the patterns of these ideas. Therefore, the current study seeks to answer these questions: are the ideas of the mosque architecture experts in terms of the lateral functions of the regional mosques different? Or there is a consensus about these functions? In case of any differences, which characteristics each of these intellectual patterns have? Which is the appropriate pattern for locating the mosques' lateral functions based on the religious? In the current study, to answer the research questions, first, the lateral use of the mosques was determined on the regional scale. The regional scale has been selected to be able to choose more functions so that the obtained responses would be more comprehensive. Then, to create a religious basis for grading the functions, a concept as the compatibility has been defined and this way, the compatibility degree of each space with the religious function has been determined. After this stage, the location of each function in the plan compared to the main religious spaces was determined by the mosque architecture experts and then, the pattern recognition of the experts' ideas was dealt with.

## 2. METHOD

In the current study, a combination of the descriptive-analytical method, summative content analysis, and logical reasoning has been used. For hypothesis testing, the following process has been used. To respond to the research questions, first, the mosque designing regulations (Mosque Affairs Center, 2016, p. 34) were referred to, for identification of the available functions of the mosques on the regional scale, and then, their functions were extracted. After that, by investigating four regional mosques in Tehran, the functions were completed and by referring to two architecture experts, they were reviewed.

Then, for achieving the compatibility criteria, the fatwas of five Maraji<sup>1</sup> were obtained and by the summative content analysis, some criteria for determination of the compatibility of the functions with the religious function were extracted. In the next stage, to evaluate the compatibility of the lateral functions with the religious functions, by the use of the extracted criteria and identified functions, a close-ended questionnaire was designed and after the initial and experimental

evaluations, along with a summary of the research stages and its objectives, it was distributed to a statistical population including 10 religious elites<sup>2</sup> and 10 architectural elites<sup>3</sup>. The participants were chosen by the use of non-random and combinational sampling (from targeted judgmental methods). Therefore, in this step, by the explorative and field methods, the compatibility of each function with the religious function was evaluated. Then, the alpha-Cronbach was used to measure the reliability of the two questionnaires. For the religious group questionnaire, it was calculated as 0.87 and for the architects' group, it was calculated as 0.75, which indicate that the questionnaire has good reliability. The TOPSIS<sup>4</sup> decision-making method was used to analyze the questionnaires in the descriptive-analytical method, and in this regard, the compatibility of the mosques' lateral functions with the religious function was determined.

Then, for locating the specific space of each function, concerning the religious space, five states were extracted by the use of the written documents on the relations between the spaces. By the use of the functions extracted and the suggestions for locating the functions compared to the religious function, another close-ended questionnaire was designed and distributed to the statistical population including 25 prominent architectural experts in mosque designing at the national level. The participants were chosen by the use of non-random sampling and the targeted judgmental method. In this regard, by the use of the descriptive-analytical method, the respondents were asked to express their ideas for locating 25 lateral functions of the mosques with the five options mentioned previously. The obtained answers were categorized by the use of the Chi-square statistical test. The alpha-Cronbach was used to assess the reliability of the questionnaire. The questionnaire's Cronbach's alpha coefficient was calculated as 0.80 which is indicative of its high reliability. The responses were analyzed based on the obtained results.

## 3. THEORETICAL FOUNDATION

Among the urban organs of any cities or villages, the mosque has always had a special position. The Holy Prophet (PBUH) based the Islamic society in Medina by building the first mosque in this city. This building, albeit small, played a key role in the realization of a great cause. Al-Masjid an-Nabawi was not only a political-religious center at that time but also the axis of most cultural and social affairs of people. "The mosque in early Islam was not a place only for prayer. But it was the center of movement and the religious and social activities of the Muslims. Whenever it was needed to gather the people, they were invited to the mosque and got informed about any important new" (Motahari, 1999, p. 193). This view continued in some Islamic eras to some extent. The mosques, in addition to their main function which was religious, had also

many lateral functions. The presence of various functions for the mosques is among the factors of their social dynamics and life.

The narratives and hadiths were referred to clarify the status of the mosques' lateral functions. Nobahar is one of the most authenticated researchers in the field of mosques whose book 'the face of the mosque' is of great importance (Nobahar, 1997). The book 'the mosque's rules' by Fallahzadeh, has also dealt with the mosque's rules (Fallahzadeh, 2005). Some of these also have been done at the master level in the Hawza (the seminary) such as the one in the Jamea al-Mostafa al-Alamiyah, entitled "the mosque and its functions from the viewpoint of the Quran and the Hadiths" (Nangro, 2008). In this regard, the hadiths and narratives related to the lateral functions of the mosques were selected. Next, for more exploitation of the authentic narratives and hadiths, the documents' descriptive and analytical codes were extracted. This way, the hadiths, and narratives were analyzed and categorized based on their subjects, in ten categories as religious, educational, commercial, health, residential, medical, service, administrative, recreational and passage. For brevity purposes, the elaboration of these categories has been avoided in the current study. However, briefly, it can be inferred from the narratives and hadiths that in normal situations, the religious and educational activities, especially the religious educations, have been affirmed by the Imams. Also, all the activities that lead to ignoring God and sinking in the mundane affairs, or contradict the dignity of the mosque, have been banned.

Today, different functions are formed in the mosques and by this general rule, their desirability and undesirability from the viewpoint of the hadiths and narratives can be understood. However, when it comes to identifying the issues of the day, one of the epistemic sources of Islam is the fatwa of the respected authority of imitation which is issued by the Mujahid concerning the authentic Islamic epistemic sources. A famous rule in the jurisprudence is that the jurist has to determine the rules of the subjects, however, the determination of the subject is out of the scope of jurisprudence and is upon the custom. The jurists, after excluding the issues raised by their jurisprudents, have identified other issues to be upon custom. In jurisprudence terms, when is talked of the custom as the identification source for the subject, two meanings can be inferred: The first meaning is about the subjects which are about public and the reference of identification is a public inference by different classes of the society, which is called the "public custom" in the mystics' terms. The second meaning is about the subjects whose concepts are used for a specific group of the society and the public, even if exposed to them, cannot perceive them. In this meaning, the perception of that specific group is called "the private custom" by the mystics. In the modern sense, this perception can be named the specialist perception versus public perception (Pakatchi, 2009,

p. 219).

Based on this rule, in terms of the concept of compatibility, the fatwas, and advice of the respected Maraji' were referred, and this concept was extracted from their opinions. However, determination of the degrees of compatibility was entrusted to the private custom which is the religious and architectural elites. The locating of the lateral functions was also entrusted to the mosque architecture elites.

#### 4. RESEARCH BACKGROUND

Regarding the significant role of the mosques in the Islamic cities, numerous studies have been done on this subject, and people have had suggestions about the location of the mosques' lateral functions based on their points of view. One of these references is the book "the mosque designing criteria" by the Architecture Council of the Center for Mosques Affairs, which is used as an executive instruction for mosque designing in Tehran. In this book, the spaces needed for the mosques in different scales are explained and categorizing them into the main, lateral, and auxiliary spaces, the location of the spaces in the plan intended by the council has been somehow determined (Mosque Affairs Center, 2016, p. 19).

One of the most important references in this area is the book "the mosque architecture guide" (Zargar, Nadimi, & Mokhtarshahi, 2007, p. 26). In this book, the mosque designing strategy is provided as follows: "it seems that considering a separate place for lateral activities in the mosque or at least allocating an area in the courtyard to these activities is a good solution so that any interference in terms of the function and the dignity of the mosque and the religious function, which is the mosque's main function, would be avoided. This way, the Shabestan (part of mosque designed for sleeping or nocturnal prayers) space can be allocated to the religious and the other activities can be organized in the surrounding spaces" (Zargar, 2008, p. 27).

A study entitled "codification of the architectural spaces standards: the regulations, criteria, and guide to designing the mosques in the five climates" has been done (Bemanian, 2012). This study recommends in terms of the functions as follows: prediction of the spaces required for lateral functions (observance of the lack of interference between the mosque's religious functions and its other functions), separation of the internal space area (which has dignity) and external space area (lacking dignity) and observance of the minimum interference and maximum compatibility in the functions.

Another reference in this regard is the book 'Islamic city and architecture' (Naqizadeh, 2008). He believes that after the Islamic Revolution, the mosques have recovered their main role in terms of other social functions to some extent (Naqizadeh, 2008, p. 352). But what is important of note is the space in which these activities are done. He states that since most of the

mosques, especially those built in the recent decades, have not been designed for social activities, they can barely meet the social needs, comprehensively, and the different activities lack an order, coherence, and logical hierarchy, which must be considered in the new designs. For example, the relationship between the educational spaces and classes, and the mosque's Shabestan can be a much stronger relationship than the space allocated to the interest-free loan fund. Another point is that the mosque complex and its surroundings must be designed in a way that the main role is entrusted to the mosque and other activities expand around it with the observance of the hierarchy and compatibility of the proximities (Naqizadeh, 2008, p. 353). This book, in the provision of the solution, has categorized the relationship between the functions, individual, collective, and urban activities into two main relationships as the internal and external relationships. The internal relationship includes those activities proportionate to the mosque's spirituality and dignity, which can be done inside the mosque. The external relationship also includes those urban activities which are done outside the mosque space. It should be noted that the degree of their proximity and adjacency to the mosque follows a hierarchy by which the peace, spirituality, value, position, purity, and holiness of the mosque is not distorted (Naqizadeh, 2008, p. 397).

Mohammad Tajeddin Haj Mohammad Rasdi who is among the prominent professors in the Malaysian universities, in the book 'the mosque as a center for social development' names functions for the mosque and based on the specific cultural and social conditions, suggests a pattern for location of the spaces in mosques. Most of his suggestions are jurisprudential suggestions for designing spaces such as the Shabestan, entrance, women's prayer room, and bathrooms. However, he sometimes notes some details on the relationship between the spaces. For example, he provides suggestions for grouping of several spaces together, or in terms of the relationship between the spaces and Shabestan, he considers the population overflow and future development of the mosque, which is very important (Haji Mohamad Rasdi, 1998).

This way, although some suggestions by the researchers overlap and there is a kind of consensus, in some cases, people with different attitudes have had different suggestions for lateral functions of the mosque, reliance on each in the designing phase leads to a specific architecture.

## 5. FINDINGS

To respond to the research questions, first, the available functions in the regional mosques were identified. The

extracted functions can be categorized into 8 main categories as the educational, cultural, health, service, social, commercial, residential and sports, each of them being divided into sub-functions. A total of 25 lateral functions were identified including the general religious classes, seminary, art a classes, library, computer site, sanitary facilities, bathroom, kitchen, dining room, meeting room, parking lot, kindergarten, loan fund, Basij office, consular office, solitary confinement council, guesthouse, Tolab house, Jama'at Imam's House, janitor house, gym, and pool.

In the second step, based on the judgmental content analysis, the opinions of 5 Maraji's about the lateral functions of the mosque were obtained. In a general sense, it can be said that if we are not obliged to do an activity in the mosque, and it is not contradictory to the Waqf (endowment), the activities that do not contradict the dignity of the mosque and disrupt those who pray, are allowable. These two conditions were considered as the criteria for selection and prioritization of the lateral functions of the mosques which are addressed in the current study as the compatibility of that function with the religious function.

Based on the compatibility, a close-ended questionnaire was designed which measured the two compatibility criteria (not being contradictory to the mosque dignity and not disrupting the worship) for the functions extracted in the scale of the regional mosque. Therefore, the respondents were asked to express their opinions about the two indices as not disrupting and not being contradictory to the religious functions. After collecting the questionnaires, the Likert qualitative scales were changed into quantitative scales with scores from 0 to 5, to analyze them.

The TOPSIS decision model was used to analyze and conclude the questionnaires. This model is one of the multi-criteria decision-making models. In this method, based on some criteria, the options can be prioritized. Thus, at the end of calculations, a factor named 'Jaccard Similarity Index' is extracted which is the basis for prioritization. All phases of this method were calculated by formulation in EXCEL. Figure (1) shows the prioritization of the presence of the functions in the regional mosques from the viewpoint of the architects and religious scholars. The name of the function is written on the horizontal axis and the value of the similarity index is written on the vertical axis. In this table, the functions are categorized into four categories as very compatible, compatible, slightly compatible, and incompatible, based on the similarity index.



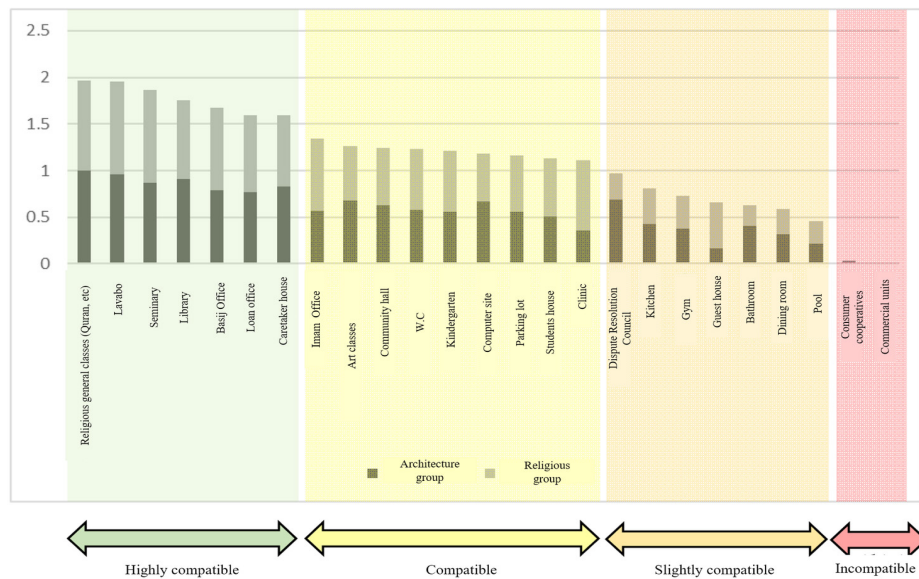


Fig. 1. The Compatibility Degree between the Mosque's Lateral Functions and the Religious Function

According to the results, the very compatible activities include public religious classes, Wuzu Khaneh, seminary, library, Basij office, loan fund, and janitor house. The location of these functions in the mosques is prioritized. The compatible activities are the Imam Jama'at house, art classes, meeting room, bathroom, kindergarten, compute sites, parking, Tolab house, and the clinic. Next, the kitchen, solitary confinement council, guesthouse, gym, and pool were categorized under the slightly compatible category. Finally, the Consumer cooperatives and commercial units were incompatible with the religious function of the mosque.

In the next step, for locating the space specific to any

function concerning the religious function, 5 states were identified. This categorization was extracted from the book "aesthetics" by Grotter, based on the discussion of the relationship between two spaces (Grotter, 2004, p. 251). Therefore, any function can be inside or outside the mosque. If it is inside the mosque, it is divided into three degrees as the rich vision and movement to the main spaces, possibility of controlled vision and movement limited to the main spaces, and complete separation of vision and movement to the main spaces, based on the vision and movement relationship. If it is outside the mosque, the complementary space beside the mosque or out of the mosque are the two available options, whose diagram has been drawn schematically (Fig. 2).

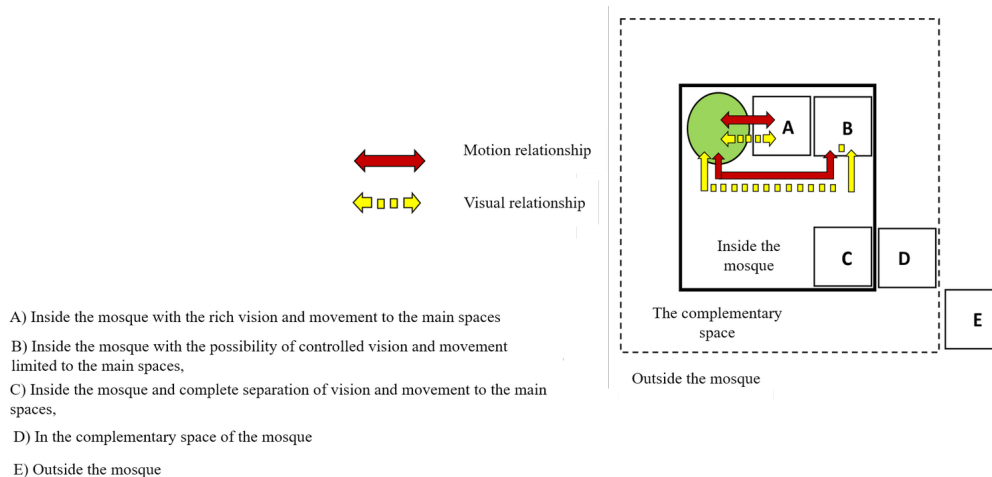


Fig. 2. The Schematic of the Location of the Functions in the Mosque's Space

Based on the 5 locating states, the respondents who were the architectural experts and the prominent mosque designers at the national level were asked to

express their ideas about locating the 25 functions with the five options mentioned previously. The responses indicate that there are controversies among the experts

in terms of locating the lateral functions of the mosques. For better categorization of these opinions, through the integration of the five options, the following locations were limited to three places as inside the mosque, the complementary space beside the mosque, and outside the mosque. The percentage of the functions each expert has determined in the location states is provided in figure (3). The responses were tested by Chi-square. It is a statistical test from the non-parametrical type, used for assessment of the Co-variation of nominal variables. In this regard, two hypotheses were defined:  $H_0$ : the distribution of the lateral functions inside the mosque, the complementary space, and outside the mosque is not uniform.

$H_1$ : the distribution of the lateral functions inside the mosque, the complementary space, and outside the mosque is uniform.

In this regard, the Chi-square test results show that in the significance level 0.05, 12 of the experts believed that  $H_1$  is true and affirmed it, while the other 13 experts believed that the  $H_0$  is true and affirmed it. The responses indicate that among 13 experts, 4 preferred the location of the lateral functions to be inside the mosque and its complimentary space, while 9 of them preferred these lateral functions to be outside the mosque and in the complementary space beside the mosque. These opinions can be categorized into three patterns which are seen in figure (3).

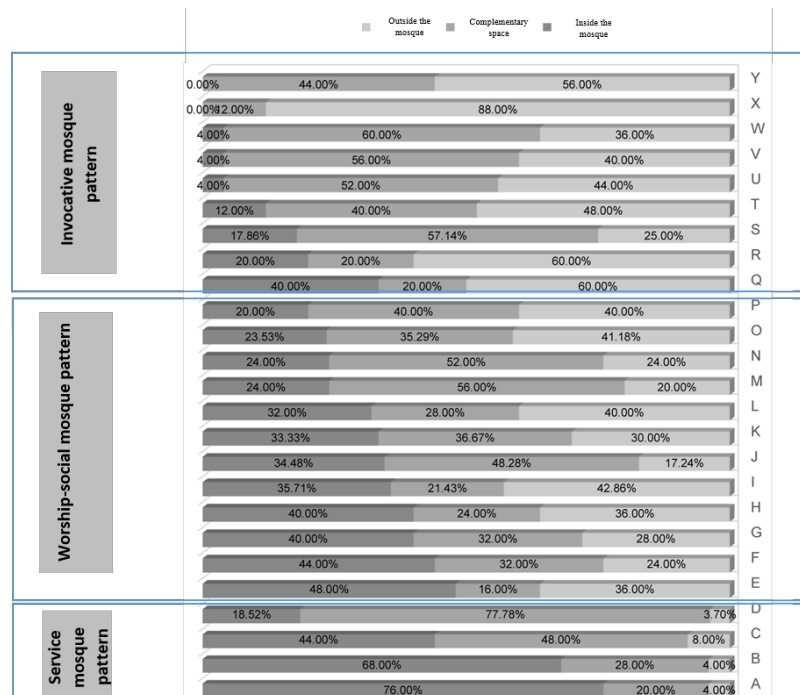


Fig. 3. The Percentage Diagram of the Mosque Design Experts in Terms of the Location of the Lateral Functions in the Three States as Inside the Mosque, in the Complimentary Space Beside the Mosque, and Outside the Mosque

## 6. RESEARCH BACKGROUND

The views suggested by the mosque design experts can be distinguished in three patterns. The schematic diagram of each pattern is drawn which is the 3-D view of figure (2). This diagram has been drawn based on the ideas of the experts. However, since it was required for analysis of their ideas to integrate the three options related to the internal space of the mosque, in this diagram also, the three options are integrated.

### 6.1. The Service Mosque Pattern

In this pattern, the mosque architecture experts are more inclined to locate the lateral functions of the mosque inside and in the complimentary space beside it, so the outside space has a very small share of the

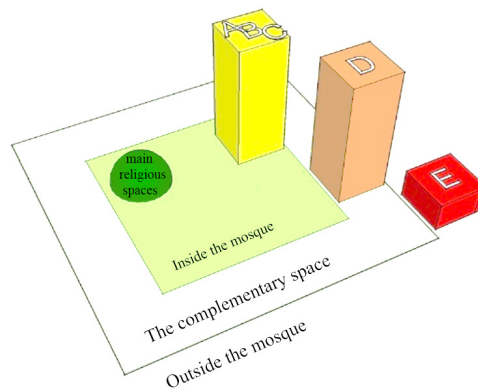
lateral functions. It can be seen in figure (4). With the comparison of the compatibility degrees between the location of the lateral functions and the main religious spaces, it can be seen that in this approach, the architects have located the incompatible functions outside the mosque, while the other functions have been distributed inside the mosque and the complimentary space beside it. However, meanwhile, at times, the presence of the slightly compatible functions in the inner spaces can be also observed, which can lead to disruption of those who pray or is contradictory to the dignity of the mosque. The result of such thinking is designing a mosque with numerous lateral functions inside it, which will be a more serve and social mosque. In this pattern, the mosques have higher capabilities to be changed into the active centers for worship, social affairs, services, and political affairs, which is

emphasized in Imam Khomeini's teachings. However, on the other hand, it is feared that the bold presence of the lateral functions in the mosques affects the religious activities both in terms of the external manifestations of the volume and the quality and quantity of the functions as well as their location.

In Imam Khomeini's point of view, as the leader of the Islamic Revolution, in addition to the religious function, the mosque must also have a political and social function. However, the presence of various activities must not disrupt the main function of the mosque which is religious. He believed that the mosques in early Islam is an ideal pattern and considered the status of the mosque pre-revolution to be unsatisfactory and inappropriate (Fazeli, 2008, p. 111). It was based on his ideas that in the first decade after the revolution, the mosque took a strategic role and function in political affairs. It led to a new perception of the mosque in public opinion. Besides, new cultural, political, and even economic opportunities and activities were concentrated in the mosques. In the second decade after revolution and after the end of the war, along with the change in the political and cultural atmosphere of the country and with the outbreak of the cultural issues called by Ayatollah Khamenei, the supreme leader of the revolution, "the cultural invasion", the religious culture development which was less addressed due to the war, became bolder in the mosques. Among the effects of

this discourse on the mosque's space, the development of the organizational structure of the mosques through the addition of the cultural and art centers, the religious offices and centers, the interest-free loan funds, the companies, the stores, reading rooms, development of the libraries and other institutions, can be named (Fazeli, 2008, p. 115).

Usually, to expand the physical programs inside the mosque complex, much effort is being made to obtain permission for constructing more floors below and above the ground and to use maximum floor area ratio at the expense of removing the open spaces belonging to the mosque. It is mainly done to meet the cultural, sports, educational, service, etc. needs in the areas of mosque's influence as well as financing the mosque's projects by the income gained from the lateral functions to pay for the current costs and help with the economic autonomy of the mosque. The outcomes of such measures can be creation of buildings with large volumes out of the human scale and incompatible with the urban neighborhoods, the complexity and vanishing of the architectural visibility, inconsistency between the full and empty spaces, failure in provision of the open space needed by the mosque, and changing the mosque into a constructive complex which basically cannot be named a 'mosque' (Zargar, Nadimi, & Heravi, 2007, p. 274).



**Fig. 4. The Schematic of the Architect Opinions for the Service Mosque Pattern**

Among the examples of such thinking in mosque construction is the Imam Sajjad (PBUH) mosque located on the Ashrafi Isfahani Highway, Tehran, in which the numerous commercial, administrative, cultural, and other functions have surrounded the Shabstans and the religious spaces, leading to the creation of large building out of human scales. This mosque has three large amphitheatres and a multi-role gym with its lateral facilities. A three-story kitchen and

restaurant with a passage on two floors and a large clinic are other parts of the complex. Also, a full educational center and a bank in three floors, as well as a complex including a library and large reading rooms, and large center for the Basij office and a place for interest-free fund in two floors besides several residential spaces in the form of apartments, and other cultural and commercial spaces, are among this complex's spaces (Zargar, Nadimi, & Heravi, 2007, p. 18).

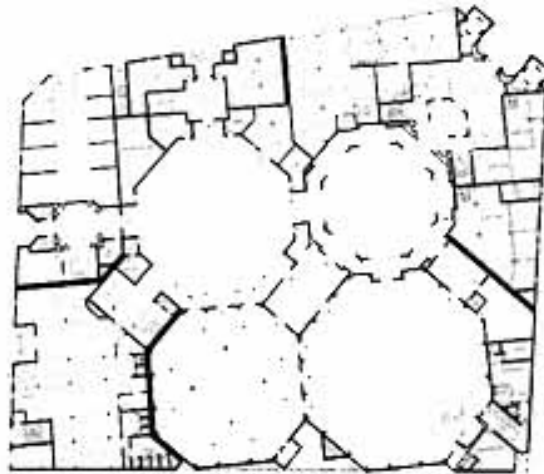


Fig. 5. The Imam Sajjad (Pbuh) Mosue

## 6.2. Invocative Mosque

In this pattern, the mosque design experts are inclined to locate the lateral functions outside the mosque and in the complementary space beside it. In this approach, as shown schematically in figure (5), the internal spaces of the mosque include a very small share of the lateral functions. Comparing these results with the compatibility degrees between the lateral functions and the religious function, it is seen that these functions are among the highly compatible functions, and the compatible, slightly compatible, and incompatible functions are located outside the mosque or in the complementary space. The outcome of designing the with such thinking is the mosques with more purity in the internal spaces, which are exclusive to the religious functions.

However, in Islam, the mosque is not merely a place for worship, since basically the worship in Islam is not exclusive to prayer and religious rituals. Worship is any kind of action and right the person does, not for the individual interest, but for other people, which is itself a manifestation of the development in the Islamic societies. In other words, the mosque is the center of worship, but worship whose domain and development include the state and essence of all affairs related to the social, economic, and political life of the Islamic world, and makes religious statements meaningful and objective. It is based on this extensity of the concept of worship in Islam that the Prophet's mosque is allocated to several functions and it initiates the tradition of multi-purpose exploitation (Noghrekar & Alalhesabi, 2011). The Prophet (PBUH) mosque is the main center of the Islamic society and all the social, political, cultural, and economic affairs are done through the mosque. In this regard, there is a basic difference between the ideal patterns of the mosque and the church. "the relationship between the Muslims and the mosque is defined in a way that Muslims are in a constant touch with the mosque, while the Christians can consider the

church as very lateral margin of his life" (Mohamadi, p. 264). Therefore, the mosque's architecture and space must be in a way that, unlike the church, can have wide worship and social functions.

Besides, the presence of lateral functions can lead to an increase in social capital and pave the way for a higher presence of the people in mosques. In social terms, there is a direct relationship between the functions of the mosque in social, cultural, and religious levels, and the social solidarity of the residents in a region. In other words, the higher the quantity and quality of the mosque's social, cultural, and religious affairs and the more people are involved in these affairs, the higher the social solidarity of the region's residents will be (Taghvaei & Maroofi, 2010, p. 233). From the people's point of view also, the lateral functions of the mosques lead to creation of a platform for more presence of people in the mosque, the formation of the memories, establishment of the social interaction, and finally, a sense of attachment to the mosque (Falahat, 2005, p. 41).

Among the examples of this pattern, the Ghaem (PBUH) mosque in Narmak can be noted that despite being a large mosque, no proper space has been allocated to the lateral functions. Regarding the need for the lateral spaces, the women's Shabestan space on the second floor has been allocated to the administrative section, the classes, and kindergarten, and the women say their prayer in a section of the men's Shabestan, which has made some problems. Thus, the mosques which are not designed for the lateral functions can barely meet the contemporary needs and the social requirements of people and usually face the space shortage and confusion. Also, the relationship between the spaces and different activities in such mosques lacks a logical order, consistency, and hierarchy (Naqizadeh, 2008, p. 353)



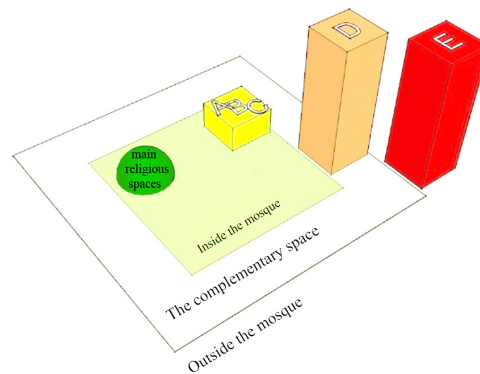


Fig. 6. The Schematic Diagram of the Architects' Opinions About the Invocative Mosque Pattern

### 6.3. The Worship-social Mosque

In this pattern, the mosque architecture experts are inclined towards the distribution of the lateral functions to the outside and complimentary spaces of the mosque. In this approach, like what was shown in figure (6), the functions have an almost uniform distribution in the three areas. The results indicate that the experts have located the functions with high compatibility inside the mosque, the compatible functions in the complimentary space, and the slightly compatible and incompatible functions outside the mosque, which seems to be a moderate and logical strategy.

Thus, in case of appropriate design with such distribution of the lateral functions, while following the pattern of Prophet's Mosque and the mosques after revolution, the mosques would be active worship, social, service, and political centers, they would be able to meet the different needs in the area of their influence, and finance themselves to pay the current costs, and create a social solidarity and attachment to the mosque. By locating highly compatible functions inside the mosque, they become also pure and their qualities would be considered since the lower compatible functions do not intervene with the internal spaces.

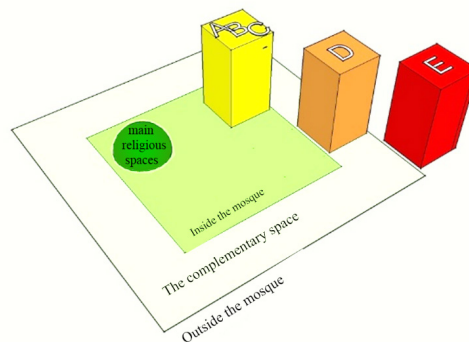


Fig. 7. The Schematic Diagram of the Architects' Opinions About the Worship-social Mosque Pattern

Most of the Iranian traditional mosques are included in this pattern, and among the contemporary mosques with this pattern, the Shahid Asemi mosque can be named. This complex has a suitable open and semi-open space which is consistent with the close spaces. The religious space is located in a separate courtyard with compatible functions in its surroundings. Next to the yard and in a complimentary space to the religious space, some spaces are predicted for children's playground and other functions. In this mosque, the slightly compatible and incompatible functions are located outside the mosque.



Fig. 8. Shahid Asemi Mosque Plan

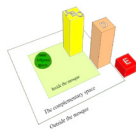
## 7. CONCLUSION

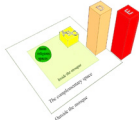
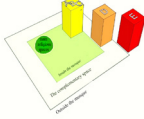
The current study aimed to find the patterns for locating the lateral functions of the regional mosques based on the compatibility degree of these functions with the religious function. Regarding the two criteria as no disruption and no contradiction with the mosque's dignity, which were chosen as the criteria for determination of the compatibility degree, the lateral functions of the mosque were divided into the highly

compatible, compatible, slightly compatible, and incompatible functions. Based on the opinions of the architectural elites about locating the lateral functions inside, in the complimentary space, and outside the mosque, three patterns as the service, invocative, and social-worship mosques can be identified. The strengths and weak points of these patterns, as well as the type of the relationship between locating and the compatibility degree of the lateral functions and religious function, are briefly provided in the Table (1).

Table 1. Summary of the Characteristics of the Three Patterns

Pattern	Locating the Lateral Functions	Locating the Lateral Functions Based on their Compatibility	Strengths	Weaknesses
Service Mosque	The inclination to locate the lateral functions inside the mosque and in the complimentary spaces	<p>-The incompatible functions outside the mosque</p> <p>-Slightly compatible, compatible, and highly compatible functions inside the mosque and in its complimentary space</p>	<p>-Higher capability to become active worship, social, service, and political center according to Imam Khomeini's teachings</p> <p>-Meeting the cultural, sports, educational, service, and other needs in the area of the influence of the mosque</p> <p>-Financing the needed financial resources through the income obtained from the lateral functions to meet the current costs</p>	<p>-The possibility of disrupting or contradicting the mosque's dignity by locating the functions inside the mosque</p> <p>-Increasing expansion of the physical programs to the internal space of the mosque</p> <p>- Efforts to obtain permission for more floors below and above the ground</p> <p>- Using the maximum floor area ratio in the expense of removal of the mosque's open spaces</p> <p>- Creation of bulky buildings out of the Humanscale and incompatible with the urban neighborhoods</p> <p>-Complication and vanishing of the architectural design visibility</p> <p>Lack of consistency between the full and empty spaces and failure in the provision of the open space needed for the mosque</p>



Pattern	Locating the Lateral Functions	Locating the Lateral Functions Based on their Compatibility	Strengths	Weaknesses
Invocative Pattern	<p>-The inclination to locate the lateral functions outside the mosque and in the complementary space</p> 	<p>-Highly compatible functions inside the mosque</p> <p>-Slightly compatible, compatible, and highly compatible functions outside the mosque</p>	<p>-Allocation of the internal spaces only to the worship</p> <p>-Purity in the internal spaces and the outer manifestations of the building</p>	<p>-Changing the mosque to a place exclusive to the worship</p> <p>-Lack of extensiveness of the mosque's social affairs and losing the social capital</p> <p>-The possibility of alteration of the mosque's space in the future, which leads to spatial discoordination</p>
Social-worship Mosque	<p>-The inclination to a relatively uniform distribution of the lateral functions inside, in the complimentary space, and outside the mosque</p> 	<p>-The highly compatible and compatible functions inside the mosque</p> <p>-The compatible and slightly compatible functions in the complimentary space</p>	<p>-The capability to follow the Prophet's and Revolution's patterns</p> <p>-Capability to meet different needs in the area of the mosque's influence and the required financial resources</p> <p>-Creation of social solidarity and attachment to the mosque</p>	<p>-Requires enough space in the mosque</p>

Meanwhile, it seems that the desired pattern, which is a moderate pattern, is that of worship-social mosques, which deals with the relatively uniform distribution of the lateral functions inside, in the complementary space, and outside the mosque. Quantitatively also, most of the experts were inclined towards this pattern. However, in the architecture planning and designing phase of such mosques, some points have to be taken into consideration. designing such mosques requires having enough space to prevent the intervention and disruption of the functions in the religious functions, and create full and empty spaces as well as creating open spaces in the mosque. In these cases, creating numerous floors does not seem to be an appropriate solution, and would lead to the creation of building

out of human scale. Also, it should be noted that for maintenance of the existing purity, the importance of the main religious space should not be ignored among the lateral functions. Therefore, in designing the main spaces, it should be considered that the main priority must be allocated to the religious space, both in terms of the outer manifestations of volume and building's façade, and the quantity and quality of the spaces. The use of the religious culture of the endowment for the lateral functions which are not compatible with the religious function can be also a solution to move the incompatible spaces away from the religious space. This way, this pattern, if implemented properly in the design phase, can give a popular and social image to the mosque while preserving its purity to a high extent.

## END NOTE

1. Including Ayatollah Khomeini, Ayatollah Khamenei, Ayatollah Bahjat, Ayatollah Sistani, and Ayatollah Makarem Shirazi.
2. The religious panel members had the following characteristics: being cleric, being the Imam Jama'at in the mosques with different lateral functions, and being active in the executive affairs of the mosque.
3. The architectural panel members also had the following characteristics: being a member of faculty, being a designer or architect, and mosque researcher.
4. TOPSIS (The Technique for Order of Preference by Similarity to Ideal Solution).

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