



## THE RELATIONSHIP BETWEEN MOSQUE CHARACTERISTICS, ACTIVITIES, AND PERCEPTIONS OF SPIRITUAL VALUES

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### ABSTRACT

A mosque is one of the art products formed by the spiritual values of Islamic religion. At this time, mosques are not always related to religious activities. Therefore, Everyone can visit mosques. The mosque is used as a place of worship and social-cultural interaction. This study aims to reveal the relationship between the characteristics of the mosque, the activities, and the user's perception of spiritual values. In this study, respondent data was collected by distributing online questionnaires with the results of 198 respondents. The data is then analyzed by quantitative methods through factor analysis to determine latent variables. Furthermore, a multivariate correlation analysis between latent variables was conducted to find the relationship between variables. The findings revealed the highest and most significant correlation between the characteristics of the mosque and ritual worship activities on the perception of solemnity during worship. Meanwhile, the mosque features also highly correlate with recreational activities, giving rise to the perception of openness to the mosque building.

### KEYWORDS:

Mosque; Spiritual; Characteristics; Activities; Correlation

### INTRODUCTION

Limitations of ability trigger feelings of depression when everyone tries to fulfill their life needs. One way to overcome stress is through spiritual activities, namely, worship according to their beliefs. For a Muslim, the mosque is one way to accommodate spiritual activities. Furthermore, Muslims will regain enthusiasm and hope after worshipping at the mosque.

Etymologically, the mosque comes from Arabic by taking the basic word prostration (*takzim*). The Mosque function is a place of ritual worship (*mahdhah*) and a place of social worship (*ghair mahdhah*) in the economic, educational, socio-cultural, and other fields [1]. Therefore, the function of a mosque tends to accommodate the various needs of its users, including spiritual needs.

Worshipping in the mosque aims to build a connection between humans and their God by asking for help and protection, thereby creating a calm mood because they have faith in the existence of hope. In addition, to previous research, a house of worship can be a place to find peace and overcome mental fatigue [2]. Through spiritual activities (religious practices), the psychological dimension will make individuals relaxed, calm, and peaceful [3].

This research is considered necessary because there is still great potential to develop the mosque design in Indonesia. According to the Mosque

Information System, the construction of mosques in Indonesia is still increasing every year. In addition, mosques in the modern era, especially in Indonesia, are growing in their innovative forms and visuals. However, physical characteristics and diverse activities may affect users' perception of spiritual values when visiting religious buildings.

Islamic art is formed by spiritual aspects related to the spirit or mind. Islamic art is classified into sacred art, traditional art, and religious art [4]. In this case, the mosque is a product of sacred art in the form of architecture. This art product is formed from Islamic spiritual principles to indirectly guide humans to return to their Creator [4].

The mosque can be easily recognized as one of the sacred works of Islamic art. Sacred art expresses spiritual values. Unconsciously, the spiritual values of Islam that are applied to the mosque can be felt directly. The spiritual values of Islam are the principle that humans have a relationship with God and relationships with other humans. The principle of divinity is based on the emphasis that God is the sole source of all things. While the principle of humanity follows the principle that humans are social beings who are cultured [4].

Spirituality is not only related to religious ritual activities. There are four signs of achieving spirituality: the spiritual process in searching for personal meaning, spiritual experiences such as feeling close to God, and

the sense of connectedness between people and the universe [5]. Therefore, it can conclude that spirituality can be achieved in general because of social interaction with other humans.

If it is associated with religious rituals, the spiritual experiences described earlier can be felt when praying solemnly. Worshipping is a dialogue between humans and their God, requesting protection and asking for happiness in the world and hereafter [6]. However, solemnity in prayer is a perceived condition of calmness, full of concentration, and focus without being disturbed by things outside of prayer. Therefore, for Muslims, the feeling of God's presence is a sign of solemn worship [7].

The solemnity of presenting Allah in prayer is a perception formed by the brain on the response of the hearing senses and a supportive visual atmosphere. According to Gordon, the brain interprets an object based on the experience and knowledge possessed by that person [8]. However, each person will have a different perception of spirituality. Their perceptions depend on their internal factors. They include experiences that can be seen, felt, and directly experienced, which support their thinking.

This study aims to reveal the relationship between the characteristics of the mosque, the activities that take place in it, and the perception of spiritual values felt by users when they are active in the mosque. So that, it can be seen as the dominant factor that most influences user perceptions. These research findings can be considered a reference for designing mosque buildings that can accommodate users' needs.

**METHODS**

This study was conducted by the mixed-methods approach, divided into two stages. The first stage is a qualitative research stage based on grounded theory to reveal phenomena through the collected respondent's data [9]. In this first stage, respondents are asked to fill out a narrative questionnaire with open-ended questions. The first stage results show the reasons of the respondents to repeatedly visit a mosque based on the mosque's characteristics and the activities they like. Therefore, the results of the respondent's answers will be varied. Then, it must be reinterpreted. The collected data were identified through open coding. Then, it was categorized as factors that became the cause and effect of visiting the mosque. There are 30 characteristic variables of the mosque identified and 24 activities variables often carried out in the mosques they frequently visited. These variables are further confirmed at the

quantitative stage. The next stage is a quantitative stage that explains the dominant factors based on the first research stage and the relationship between these dominant factors.

**METHOD OF COLLECTING DATA**

Data was collected by using an online questionnaire method. The sample selection method used a snowball sampling technique with non-random sampling. This snowball sampling technique accelerates the distribution of questionnaires by asking respondents who have answered the questionnaire to distribute it to their closest friends or relatives [10]. In addition, all questions are close-ended with answers using the Likert scale method [11].

The questionnaire distribution began on October, 30<sup>th</sup>, 2020 to November 7<sup>th</sup>, 2020 with the results of 199 respondent data. However, there are the same data after sorting again. Therefore, the respondent's data is reduced to 198. The number of respondents consisted of 82 male respondents and 116 female respondents. The order of age categories of respondents, the most in the category of teenagers (15-25 years), as many as 137 respondents, young adults (26-35 years), as many as 40 respondents, middle adults (36-45 years) as many as 14 people, old adults (46-55 years) as many as four people, elderly (56-65 years) as many as two people, and seniors (>65 years) as many as one person.

At the introductory stage of the questionnaire, respondents were asked to name one type of mosque they frequently visited, along with their frequency, duration, and partners. Furthermore, respondents began to fill in their reasons for visiting the mosque. The pattern of answers from the questionnaire uses the Likert scale method with an interval measurement scale of 1-5. The levels on the scale are described by labeling strongly disagree, disagree, neutral, agree, and strongly agree. The positive scale is placed on the right to facilitate filling out the questionnaire. The neutral scale is in the middle. Besides, the negative scale is on the left (Table 1).

Based on the answers to the questionnaire, the data obtained are still numerical and then analyzed quantitatively. The method of quantitative analysis of the data was conducted in three stages. The first stage is principal component analysis. In the second stage, factor analysis identifies factors that can be described by latent variables that are easier to understand. In the last stage, multivariate correlation analysis was conducted between latent variables to determine the relationship between variables and the dominant factor.

**Table 1.** The Use of the Likert Scale in the Questionnaire

Reason for Visiting Mosque	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The mosque provides a sense of relaxation and relieves fatigue.	○	○	○	○	●

## RESULTS AND DISCUSSION

Principle component analysis and factor analysis were conducted to identify latent variables representing the meaning and value of many measurable variables. The principal components can be identified from the eigenvalue results whose value is above one or the cumulative percent above 75%. It is intended that the principal component can explain data more than 75%.

### DIMENSIONS OF MOSQUE CHARACTERISTICS

Based on the questions in the questionnaire, 30 measurable variables can be identified regarding the characteristics of the mosque building. These variables were analyzed using the factor analysis method to obtain the latent variables or simpler principal components (Table 2).

Based on table 2, it can be identified that this study uses the eigenvalue of 1.0793 as a reference in determining the number of principal components (latent variables). The number of principal components based on this value is 7, with a data capability of 66.437% in explaining the phenomena. After determining the number of principal components, the next step is factor analysis to identify what each principal component describes how many measurable variables are.

**Table 2.** Eigenvalue and Cumulative Percent Values in the Principal Analysis of Mosque Characteristics Components

No	Eigenvalue	Percent	Cum Percent
1	9,0596	30,199	30,199
2	3,0142	10,047	40,246
3	2,1758	7,253	47,499
4	1,6631	5,544	53,042
5	1,5600	5,200	58,242
6	1,3791	4,597	62,839
7	1,0793	3,598	66,437
8	0,9444	3,148	69,585
9	0,8901	2,967	72,552
10	0,7460	2,487	75,038
11	0,6790	2,263	77,302
12	0,6362	2,121	79,422
13	0,5917	1,972	81,395
14	0,5718	1,906	83,301
15	0,5330	1,777	85,077
16	0,5066	1,689	86,766
17	0,4332	1,444	88,210
18	0,4027	1,342	89,553
19	0,3922	1,307	90,860
20	0,3558	1,186	92,046
21	0,3449	1,150	93,196
22	0,3260	1,087	94,282
23	0,2986	0,995	95,278
24	0,2700	0,900	96,178
25	0,2469	0,823	97,001
26	0,2344	0,781	97,782
27	0,2114	0,705	98,487
28	0,1873	0,624	99,111
29	0,1623	0,541	99,652
30	0,1044	0,348	100,000

Factor analysis was performed using varimax rotation. Varimax rotation arranges the relationship between the principal components to be orthogonal and uncorrelated with each other so that the results of varimax rotation can be referred to as dimensions [12]. In factor analysis with varimax rotation, the factor loading of each measured variable is made as large as possible on certain latent dimensions/variables and as small as possible on other dimensions.

Based on factor analysis results (Table 3), seven latent variables represent each measured variable. The seven variables include mosque design, the atmosphere, availability of supporting facilities, mosque facilities, community facilities, ease of accessibility, and a beautiful environment.

The latent variables of mosque design represent six measurable variables: majestic, beautiful characteristics, photo spots, pride, spaciousness, and beautiful landscapes. The process of naming is also done for each latent variable. After naming each latent variable, it is necessary to identify the item reliability on the latent variable that describes the consistency of the data by reviewing the value of Cronbach's.

The value of Cronbach which is getting closer to 1 is considered to have high reliability so that the data consistency can be trusted. In addition, each measured variable also has a dominant factor that can be viewed from the highest mean value. Based on table 3, it can be identified that the dominant factor in the latent variable of mosque design is the area of the room. It is the highest mean value, as with other latent variables.

The comparison between latent variables shows that the dominant variable is the atmosphere. It can be seen because the mean value of the latent variable is higher than the other variables. It has a Cronbach's value of 0.87, whose consistency is considered very high. If further reviewed, the dominant factors are peacefulness and cool room temperature.

The dominant factor of the atmosphere based on the comparison of the highest mean value indicates that this factor is considered the most important by mosque users. The Mosque's function is limited to religious rituals. It becomes a place that presents specific physical and psychological experiences useful for recovery [2]. The peacefulness and cool room temperature are related to visitors' physical and psychological comfort when doing ritual worship activities or relaxing and relieving fatigue. A calm and concentrated atmosphere can increase solemnity during worship [8], creating a connection with His Creator [13].

While the latent variable has the lowest mean value, which supports facilities variables. Supporting facilities include measurable variables, including culinary facilities, social facilities, public facilities, shelters, markets, exciting attractions, and popularity. The latent variable with the lowest mean value needs attention in mosque design. These variables are considered required by visitors but are not widely available in mosque buildings.

## The Relationship Between Mosque Characteristics, Activities, and Perceptions of Spiritual Values

### DIMENSIONS OF MOSQUE CHARACTERISTICS

Based on previous research in phase one (qualitative), the activities in the mosque are varied. Therefore, 24 measurable variables in the category of activities used in the second research phase (quantitative) can be identified.

Determination of the number of principal components using a reference to the eigenvalue >1 (Table 4), then the number of principal components is four latent variables representing the 24 measured variables below. The ability of the data to explain the phenomenon is reviewed at the cum percent value on the four latent variables, namely 66.9%.

Table 3. Factor Analysis of Latent Variables of Mosque Characteristics

No	Latent Variable	Measurable Variables Descriptions	Loading Factor	Mean	Variance	Cum %	Cronbach's $\alpha$	
1	Mosque Design	Majestic	0,88	3,98	3,92	4,06	13,55	0,90
		Beautiful	0,81	4,20				
		Availability of Photo Spot	0,76	3,46				
		Sense of Pride	0,73	4,10				
		Spaciousness	0,66	4,14				
		Beautiful Landscape	0,55	3,62				
2	The Atmosphere	Restorative Effect	0,79	4,54	4,54	3,88	26,48	0,87
		Peacefulness	0,78	4,60				
		Comfortableness	0,77	4,58				
		Safeness	0,75	4,48				
		Cool Room Temperature	0,56	4,60				
		Clean Environment	0,53	4,45				
3	Availability of Supporting Facilities	Canteen Availability	0,78	3,58	3,56	3,42	37,86	0,82
		Near Social Facilities	0,72	4,11				
		Near Public Facilities	0,70	3,54				
		As A Shelter	0,64	4,04				
		Weekly Market Availability	0,61	2,73				
		Interesting Attraction in Mosque	0,52	2,91				
4	Complete Mosque Facilities	Complete Facilities	0,79	4,35	4,42	3,07	48,11	0,75
		Facilities are Easy to Use	0,75	4,46				
		Easy Parking Access	0,61	4,21				
		Clean Facilities	0,58	4,65				
		Availability of Management Facilities	0,50	4,42				
5	Availability of Community Facilities	Availability of Community Facilities	0,79	3,67	3,83	1,99	54,73	0,62
		Availability of Study Facilities	0,78	3,99				
6	Ease of Accessibility	Passed Often	0,85	4,26	4,41	1,77	60,63	0,69
		Reachable by foot	0,82	4,57				
7	Beautiful Environment	Lots of Greenery	0,73	3,96	4,13	1,74	66,44	0,63
		Air Pollution Free	0,53	4,29				

### DIMENSIONS OF PERCEPTION OF SPIRITUAL VALUES IN MOSQUES

The results of the previous discussion regarding the activities in the mosque show that the motivation for visiting the mosque is to get spiritual benefits from places of worship. Therefore, this study tried to reveal the spiritual perception obtained when visiting the mosque. After conducting a literature review on the spirituality of worship buildings, 11 measurable variables can be identified regarding spiritual perceptions used in this study.

Table 6. Eigenvalue and Cumulative Percent Value of Activity Principle Component Analysis

No	Eigenvalue	Percent	Cum Percent
1	4,2849	38,954	38,954
2	1,8611	16,919	55,873
3	1,0672	9,702	65,574
4	0,9494	8,631	74,205
5	0,7182	6,529	80,735
6	0,6321	5,746	86,481
7	0,3995	3,632	90,113
8	0,3684	3,349	93,462
9	0,2772	2,52	95,981
10	0,2639	2,399	98,381
11	0,1781	1,619	100

Measurable variables regarding spiritual perception were then analyzed to obtain the principal components that could represent them. Based on the eigenvalue > 1, the measured variable will be divided into three principal component groups (Table 6). Next, the factor analysis stage uses varimax rotation to determine the measured variables that each principal component will represent.

The factor analysis results show that the first principal component has four measurable variables, then named the latent variable of perception of openness (Table 7). The naming of each principal component must be able to represent the measured components in it. Therefore, the naming process is conducted from the second principal component to the third component. Thereby, it can be identified that there are three latent variables, including the perception of openness, the perception of solemnity, and the perception of ease.

Another indicator of meeting spiritual needs is a sense of harmony, the mutual closeness between oneself, others, nature, and a relationship with the Almighty [20]. So, it is related to the previous discussion regarding the activities in the mosque, including ritual activities, educational activities,

recreational activities, and daily activities. In that case, these are activities to get spiritual benefits. These activities build a connection with God and make connections with fellow human beings and oneself in fulfilling life's needs.

The latent variable with the highest mean value is solemnity perception when worshipping, with the dominant factor being the darkness of light in the worship room. Previous research has discussed the imaging of the Mosque atmosphere, which is influenced by the user's self-orientation, appreciation of space, visual comfort, and the contrast of light in the room [21]. Light contrast is divided into two, namely Low-Contrast Environment and High-Contrast Environment, which can cause different emotions [8]. The contrast of light or dark and bright lighting in the worship room dramatically affects the formation of a serene atmosphere in the room to add solemnity.

Worship (prayer) is a form of dialogue that is a statement of God, total surrender, a request for protection and freedom from all dangers, and asking for happiness in this world and the hereafter [6]. Sincere worship is a form of spiritual benefit because of the psychological impact that makes people feel calmer and happier.

Table 7. Factor Analysis of Latent Variables of Spiritual Values Perception

No	Latent Variable	Measurable Variables Descriptions	Loading Factor	Mean	Variance	Cum %	Cronbach's α
1	Perception of Openness	Everyone can do relaxing activities in the prayer room	0,87	3,13	3,33	2,78	25,29
		Everyone can do learning activities in the prayer room	0,87	3,20			
		Everyone can do organizational activities in the prayer room	0,83	3,18			
		Everyone can do praying in the foyer	0,50	3,81			
2	Perception of Solemnity	Solemnness because of dark and light setting in the prayer room	0,81	4,03	3,95	2,52	48,22
		Not distracted by the crowd while praying	0,76	3,93			
		Prayer room seems majestic	0,76	3,48			
		Sacredness feeling while in a prayer room	0,65	4,35			
3	Perception of Ease	Everyone can do all activities at the mosque park	0,85	3,64	3,76	1,91	65,57
		Everyone can do all activities at the foyer (serambi)	0,74	3,31			
		Everyone has no problem finding the Qibla	0,53	4,34			

Meanwhile, the latent variable that has the lowest mean value is the perception of openness, with the dominant factors being leisure activities and organization in the prayer room. The value of Cronbach on the latent variable is 0.86, which is considered very high reliability. Visitors consistently perceive the perception of the prayer room as a sacred place so that activities other than ritual worship are considered to reduce the sacredness of the space.

Sacred is respected, glorified, and cannot be

defiled [22]. While profane is something ordinary, general, not sanctified, and temporary. Based on this statement, it can be concluded that the prayer room is a sacred space because the condition for entering the mosque must be in a holy state. Religious activities that require solemnity are praying together, *i-tikaf*, *dhikr*, and recitations.

Besides, activities outside of religious activities are considered general and included in profane activities. Organizational and leisure activities are

profane because the purification requirements do not influence them. These activities are generally carried out in profane spaces such as a foyer, hall, garden, or plaza. Profane activities in sacred areas can be overcome by providing facilities for profane activities at the mosque to not interfere with religious ritual worship activities.

**CORRELATION OF MOSQUE CHARACTERISTICS, ACTIVITIES, AND PERCEPTIONS OF SPIRITUAL VALUES IN MOSQUES**

After each data has been processed through factor analysis, the next step is multivariate correlation analysis. This step is conducted to determine the relationship between the latent variables that have been discussed previously. Variables are divided into independent variables and dependent variables. The principle of the independent variable is to precede the dependent variable, or the independent variable is a cause, while the dependent variable is the effect.

Based on this principle, the variables of mosque characteristics and activities are considered independent variables because their existence affects spiritual perception. Interestingly, the activity variable can act as an independent or dependent variable because the characteristics of the mosque influence its nature but its presence also affects spiritual perception. At the same time, the spiritual perception variable is the dependent variable.

The results of the multivariate analysis (Table 8) (Diagram 1) showed that the characteristics of the mosque's atmosphere ( $r=0.246, p<0.001$ ) made the highest contribution to the occurrence of ritual activities in the mosque. The correlation between these two variables is low when viewed from the value. However, the correlation is very low compared to other characteristic factors, which is below 0.2.

The dominant factor of the latent variables of mosque design is the mosque's beauty and the large and large scale of the mosque. The scale game on buildings can create different perceptions for users. For example, the grander scale on a colossal building gives a perception of social class. It makes humans seem smaller than usual [23]. Tricks in the perception game apply to worship buildings to create solemnity of prayer. Being solemn in worship is a heart condition filled with fear, surrender, submission, and other good feelings, which is seen in every prayer movement. It shows that someone worships in solemnity and focus. [6].

In addition to the design aspect of the mosque, ritual activities in the mosque are strongly influenced by the characteristics of the atmosphere in achieving solemnity. The dominant factor in the identified atmosphere latent variable is calm. A calm and concentrated atmosphere can increase solemnity during worship [8]. It is reinforced by the correlation between ritual activities ( $r=0.290, p<0.0001$ ), which is significant with the perception of solemnity. Therefore, it can be interpreted that the design of a mosque that is able to create a solemn and serene atmosphere has a major influence on solemnity in prayer.

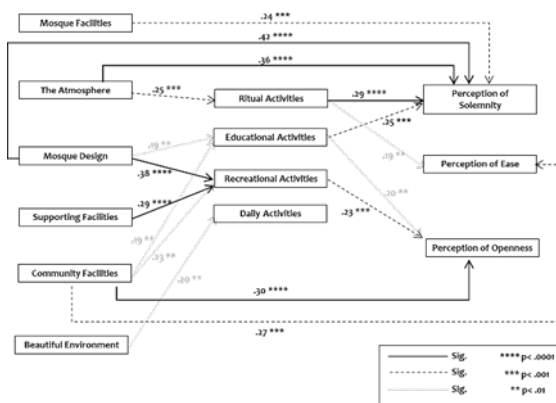


Figure 1. Multivariate Correlation of Mosque Characteristics, Activities, and Spiritual Perception

The function of the mosque as a recreational facility can be identified as a high correlation between mosque characteristics, including mosque design ( $r=0.379, p<0.0001$ ) and supporting facilities ( $r=0.289, p<0.0001$ ) with recreational activities compared to other factors. Meanwhile, community facilities ( $r=0.30, p<0.0001$ ) and recreational activities ( $r=0.234, p<0.001$ ) had the highest correlation with perceived openness.

The main motives for everyone visiting mosques were the restorative aspects of being away (an effort to get away from daily routines) and spirituality [2]. Based on factor analysis results, it can be identified that the most dominant recreational activities are relaxing and chatting. Relaxing and chatting activities are included in restorative activities because they can restore physical and psychological conditions from fatigue due to carrying out daily routines. The activities like relaxing and or chatting then lead to a perception of openness because it interprets that the mosque environment also accommodates activities other than ritual worship or called profane activities.

In general, the activities in the mosque are influenced by the characteristics of the mosque itself. Meanwhile, the spiritual perception received by visitors is directly influenced by the characteristics of the mosque and the activities that take place in it. In addition to the building characteristics and the activities that take place, the spiritual perception of each visitor can also be influenced by internal factors, such as age, gender, experience, and other attributes.

**MOSQUE DESIGN IMPLICATION**

**ZONING ON THE MOSQUE**

Basically, the room in the mosque is divided into a prayer room, a porch, and a purification area. The place of worship is sacred, so to be active in it, everyone must first purify themselves. Meanwhile, the porch is an intermediary space between the worship and purification rooms. Therefore, many people can sit or engage in activities outside of religious rituals in the mosque's foyer because this space is profane.

This principle is used in mosques, just like humans are made up of body and spirit. The deepest part of humans is the most visible part, namely the inner self.

In comparison, the physical part of humans is a representative area. Therefore, the deepest mosque zoning is an area of worship that symbolizes the inner self-journey of humans in communicating with God [24].

Based on the previous analysis results, ritual activities at a solemn point can be achieved if the atmosphere is supportive. The atmosphere in question is calm and supports visitors staying concentrated while worshipping.

Meanwhile, the mosque function is not only a place of worship, so the atmosphere tends to be crowded. In consequence, the design of the mosque becomes an important thing to overcome these contradictory things. It is supported by the analysis results showing that mosque design can contribute to supporting solemn worship activities.

**SOLEMNITY AND NOISE CONTROL STRATEGY**

In previous studies, noise control can be obtained through building design strategies, namely by setting room configurations and building design [25] [26]. In this case, the configuration of the worship room and other supporting rooms. The source of noise comes from the activities carried out by users. So rooms with activities that cause noise must be separated from rooms that require quiet. Meanwhile, a room with tolerable noise can separate into noisy and quiet areas [25]. Hence, it can be concluded that the

distance of the noise source can be used in noise control in the worship room.

In mosque buildings, supporting spaces such as community facilities and supporting facilities tend to cause noise to the worship space. Consequently, these spaces must be grouped in one area away from the worship space. The zone can be separated by a porch and a hallway surrounding the worship space.

Meanwhile, the Mosque design, which includes the facade, floor, and ceiling elements, also affects the control of noise in the room [26]. Previous research has seen that building facades are very influential as an antidote to noise from outside.

It is related to the solid-void composition of the building facade. Solid and massive facade planes can ward off noise from outside, while transparent or aperture facades can reduce the performance of solid facades. However, if the entire facade is massive, it will undoubtedly affect air circulation and natural lighting in the space. Therefore, voids in the facade are still essential, but the proportion of these voids is minimized in areas that tend to be exposed to noise. In addition, the material used on the floor and ceiling can also influence absorbing noise. For example, an alternative material that can absorb the flower is a floor covered with carpet or a floor covered with a soft and elastic surface such as vinyl. In contrast, alternative materials that can coat the ceiling are mineral wool or glass wool.

Table 8. Multivariate Correlation of Mosque Characteristics, Activities, and Spiritual Values Perception

Activities		Perception of Spiritual Values					Dependent Variable	Independent Variable
Educational Activities	Daily Activities	Recreational Activities	Ritual Activities	Perception of Openness	Perception of Solemnity	Perception of Ease	Mosque Characteristic	
0,191 **	0,020	0,379 ****	-0,017	0,086	0,421 ****	-0,244	Mosque Design	
0,057	-0,090	0,121	0,246 ***	0,037	0,362 ****	0,063	The atmosphere	
-0,384	0,101	0,289 ****	0,139	-0,056	-0,048	0,078	Availability of Supporting Facilities	
-0,056	-0,065	0,001	0,145	-0,203	0,241 ***	0,114	Availability of Mosque Facilities	
0,191 **	0,121	0,230 **	0,065	0,305 ****	0,109	0,269 ***	Availability of Community Facilities	
0,181	0,095	-0,078	0,119	0,043	0,166	-0,045	Ease of Accessibility	
-0,085	0,199 **	0,004	0,128	0,165	0,126	0,047	Beautiful Environment	
				0,200 **	0,248 ***	-0,022	Educational Activities	
				0,130	0,011	0,035	Daily Activities	
				0,235 ***	0,177	0,129	Recreational Activities	
				0,064	0,290 ****	0,194 **	Ritual Activities	

Note: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001 \*\*\*\*, p<0.0001

**SOLEMNITY AND THE SCALE OF ROOM**

In addition, peacefulness can be obtained with noise control. Solemn worship can also be supported by the atmosphere of the space that the visual senses will capture. In the spiritual dimension of Islam, solemnity is obtained if the congregation feels the

presence of its Creator by feeling small and poor in front of Him. This slight feeling can be obtained by designing a design that regulates the scale of the worship space.

Lawson explained that the scale could affect human visual perception [23]. The scale of the room

that is designed is monumental as the size of the room's height, the size of the doors, and windows that are oversized from a human size so that humans will feel small in the space. Meanwhile, a wide and empty room without columns is applied so that humans feel increasingly empty, full of simplicity, and feel nothing in front of their God [4].

#### **SOLEMNITY AND THE SETTING OF ROOM LIGHTING**

The atmosphere can also be supported by the lighting design used in the room. Light adjustments in the worship space will dramatize the atmosphere [27]. The natural light that enters the opening cracks will form God's rays as a symbol of God's grace that blesses. This symbol is one of the spiritual values that can be felt as a solemn factor. However, this visual impression always depends on the perception of the observer.

The standard of lighting for the mosque room is 200 lux [28]. Adequate lighting is obtained from natural light sources and artificial lighting. Natural lighting in the building can be obtained from openings in the facade, while artificial lighting can be obtained from lamps [29]. Natural lighting can be used during the day to save electricity usage. However, natural lighting with high intensity does not necessarily provide comfort. Because the intensity of natural light that is too high will affect the feeling of glare and an increase in room temperature, it interferes with focus when worshipping. Therefore, the proportion of openings on the facade must be adjusted ideal. Thus, the room is not too dark or bright during the day.

As for artificial lighting, previous research stated that the type of lamp and armature used were adjusted to the activity. It is recommended that prayer activities use general lighting with a lamp's color temperature, warm light as an accent, and cool light as the main light rendering [30]. The colors produced in these lights can make the atmosphere seem warm and serene.

#### **SOLEMNITY AND INDOOR THERMAL COMFORT STRATEGY**

In addition, the atmosphere must also be felt by the senses of taste. In this context, thermal comfort can support solemn worship. Passive and active cooling methods can obtain thermal comfort. Passive methods can be used to design facade openings that apply a cross-ventilation system [31]. A pool near the building can be used as an alternative to increasing the humidity in the room.

However, the passive method requires a large enough opening area, so it must reduce the proportion of solid facades that function as noise buffers. Then the active cooling method can be used with the help of air conditioning devices such as air conditioners or fans.

#### **CONCLUSION**

This study reveals the relationship between the characteristics of the mosque, the activities that take

place, and the perception of spiritual values felt by building users. The spiritual values of Islam that are expressed in mosque buildings include human relations with His Creator and relationships between humans. It is represented by ritual worship and social worship (non-ritual) activities.

The results of multivariate correlation between latent variables that have the highest and most significant correlation level are ritual worship activities influenced by aspects of the mosque's atmosphere. While the solemnity in worship is determined by the characteristics of the atmosphere and the worship activity itself.

The mosque is widely used as a restorative means to restore physical and psychological conditions that are tired due to daily routines. The analysis results show a relationship between the mosque's design, the availability of supporting facilities, and community facilities that affect recreational activities at the mosque. These activities are considered activities outside of ritual worship or are called profane activities. This relationship affects the perception of the openness of mosque buildings in accommodating non-ritual activities.

The motivational factors underlying the activities in the mosque and the visitors' perceptions of the building of worship are influenced by internal visitor factors, which have not been discussed in this study. So this research still needs to be completed and requires further research to reveal the phenomenon as a whole. Nevertheless, this study aims to reveal the dominant factors that influence the design aspects of mosque worship buildings through the analysis of latent variables. The results of this study can be considered for planners in designing mosque buildings that can accommodate various needs.

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