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Needs and Wants in Mosque Architecture: A Study of Traditional and Modern Mosques in West Java-Indonesia

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***Abstract*---**Generally, the study on mosque architecture focuses partly on classifying mosque forms or exploring the historical, socio-cultural, and political meanings behind the architectural design of mosques. This study puts forward a new concept of an interesting relationship between the needs of Islamic ritual activities and the wants of certain traditions that underlie the diversity of mosque architectural forms in Indonesia. Therefore, the search for these two essential aspects of mosque architecture is important to position the diversity of mosque architectural forms in the context of architectural design that continues to evolve. In line with these issues, this study analyzes the concepts of needs and wants that underlie the design of traditional, and contemporary mosques in West Java. The analysis process is carried out by comparing ideograms that represent the concept of the need for Islamic fiqh-based ritual activities, with typograms that represent the elements of the scope and mosque space in the study cases. Furthermore, the analysis results show that the expression of the architectural form of the mosque in each case study is more influenced by the wants of the pious congregation and the personal wants of the architect.

***Keywords*---**architecture, ideogram, mosque, need, typogram, want.

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Introduction

The architecture originally came from the need for a container to perform certain activities. In its development, humans never stop giving new meaning to the nature that surrounds them. The human attitude that always tries to develop nature and form new interpretations of nature is what is then known as culture. Furthermore, the building, which was originally only used for comfortable activities without being disturbed by natural conditions, now also expresses the wishes of the pious congregation and the personal wants of the architect. At this point, the expression of the shape of the building may differ from one another, even though the whole building accommodates similar activities or is in the same place (Goldschmidt, 1994; Iwata et al., 1995). It is believed that this trade-off between needs and wants is what underlies the diversity of architectural forms around the world. This can be seen from the phenomenon of expression of the architectural form of mosques in Indonesia. Although it accommodates relatively permanent ritual activities, the shape of the mosque that was created since the beginning of the spread of Islam in Indonesia until now is very diverse (Suryasa, 2019).

Currently, the phenomenon of the diversity of expressions of mosque architectural forms in Indonesia can be classified into three: First, the architectural form of mosques is relatively the same in various provinces. The facts that support this phenomenon are the mosques that were built under the Pancasila Amal Bakti Foundation in 1992-1990. During that period, there were 999 mosque buildings with similar expressions, characterized by tiered roof throughout the mosque. Second, the expression of mosque forms is relatively different in various provinces. For example, the mosque was built with a modern expression. These mosques come with architectural design concepts that want to break away from the forms of mosques that are considered ordinary, which are made possible by technological and material advances. In addition, this classification also includes the shape of a mosque that adapts the typical shape of the Arabian Peninsula and Maghreb, which has a domed roof, a minaret, and an arch structure, with Arabic geometric ornaments adorning its appearance. Unlike the first and second classifications, the third classification shows the shape of the mosque which is in harmony with the provincial context. This is shown in the form of a mosque that is hundreds of years old in Java and was initiated by Walisanga, who is believed to be the propagator of Islam on the island of Java. Amid the development of increasingly advanced technology and construction materials, the expression of the shape of the mosque which is characterized by three or more overlapping roofs, and is more than one hundred years old still exists and is used by the pious Muslim community. Third, the phenomenon implies that in the province that shares the same culture, various forms of mosques can be found.

Both in general and specifically in Indonesia, mosque architecture has been widely studied by academics. The study of mosques in the world generally focuses on the meaning of cosmology, culture, and ideology that influence the interpretation of the mosque shape (Akkach, 2012; Hillenbrand, 1994; Frishman et al., 1994; Hoag, 2012; Dijk, 2006; Paskaleva, 2012). Similar to these studies, study on mosques in Indonesia is generally a historical review that aims to trace

the original form of early mosques in Indonesia, tracing the mixing of styles in the expression of mosque forms; or focusing on the meaning of the political, social, and cultural ideologies that underlie the creation of particular mosque architecture (Sumalyo, 2000; Budi et al., 2017; Fanani, 2009; Heuken, 2003). Furthermore, these studies show that mosque architecture tends to be studied in terms of the form and meaning of local traditions and ideologies. Meanwhile, a study that explores comprehensively and in-depth, the diversity of mosque architectural forms in about the building's ability to accommodate the needs of Islamic ritual activities is still very rare (Kambarova, 2021; Li & Huan, 2019).

Regardless of the surrounding context, the mosque is the House of God. As the House of God, the architectural shape of the mosque should be able to meet the ritual needs of Islamic religious activities. Departing from the scarcity of academic publications on the two essential aspects of mosque architectural design, this study aims to explore the relationship that exists between the needs of Islamic ritual activities and the wants of congregation that underlie the diversity of mosque architectural forms. In addition, the study that links the architectural form of mosques with ritual needs is believed to be important to position the diversity of mosque architectural forms especially in the context of a very dynamic contemporary architectural design (Kasmawan et al., 2018; Widiarta et al., 2021). Based on these objectives, this study is useful for:

- First, the science of architecture. Besides, to specifically enrich the theoretical treasures of mosque architecture, the search for these needs and wants can deepen understanding of two important aspects of architecture, namely aspects of function and form. Likewise, ideograms and typograms as new interpretation tools produced in this study can be adapted and applied to other studies that have similar characteristics.
- Second, the results of understanding the attractiveness of needs, and wants in mosque architecture are also expected to be able to bring new awareness to architectural practitioners and inspire practitioners to design mosque architecture that is in line with Islamic values even though it appears in various forms.
- Third, for the general public, including decision-makers and stakeholders in mosque construction and renovation activities, the study results can be a source of new knowledge that is different from various existing opinions regarding mosque architecture so far.

Materials and Method

Case study

Historians agree that the period of the entry of Islam into Indonesia still tends to be speculative, starting from the 10th century to the 14th century AD (Drewes, 1968; de Graaf, 1963; Pijper, 1947). Although it is not known for certain the period and location of the first entry of Islam in Indonesia, almost all historians agree that Islam was introduced as a new and organized religious understanding when nine Islamic apostles (Walisongo) spread this religion on the island of Java (Ashadi, 2013; Tajuddin, 2015; Kholid, 2016). Thus, it can be said that the island of Java is the entry point for the development of Islam in Indonesia. In recent

developments, the largest Muslim population in Indonesia is in West Java Province with a total of 41,763,592 people, or 97% of the total population of West Java. Therefore, based on these data, the study will be conducted on mosques in West Java Province (Mohamed et al., 2014; Azmi et al., 2021).

In line with the issues raised, this study establishes two case studies that represent different periods in the same province. The first case study is the Sang Cipta Rasa Mosque, Cirebon. It is one of the oldest mosques in Indonesia, built at the end of the 15th century on the initiative of Sunan Gunung Jati. He is one of the nine apostles who is believed to be the main propagator of Islam in West Java. Interestingly, this mosque was founded in the Keraton Kasepuhan Cirebon Complex which is the first Islamic-style sultanate in West Java. Thus, it is suspected that this mosque represents the relationship between local political-cultural ideology and Islamic religious ideology at the beginning of its spread in Indonesia.

Representing a modern mosque, the Salman Mosque was chosen in the city of Bandung – West Java. It is interesting to study further because apart from being one of the first mosques built in the post-colonial period, this mosque is located in the Institute of Technology Bandung (ITB) complex ITB is known as the first school of technology including architecture department in Indonesia. When this mosque was built in 1963, the thoughts of world architectural experts such as Le Corbusier and Walter Gropius were made mandatory references in architectural schools in Indonesia. ITB, which at that time was the only high school of architecture in Indonesia, initiated the spread of modern thought in architecture. Furthermore, the modern thinking of these experts has inspired architecture students, including Achmad Noe'man who is an alumnus of ITB. After graduating in 1953, Noe'man started the construction of his first 'mosque without a dome' at ITB. President Soekarno, who was the first president of Indonesia, welcomed the idea, giving it the name Salman Mosque. Thus, the Salman Mosque is an example of an architectural work that represents post-independence modernism in Indonesia. Associated with the terms "form follow function" and "ornament is a crime" as a spirit of modernism, the Salman mosque presents a form expression that is very different from traditional mosques, by representing the characteristics of modern architecture, namely: geometric, without ornaments and flat-roofed looks.

Since its inception until now, the physical form of the two mosques tends to remain unchanged, and these two buildings are still used by the local community to carry out Islamic ritual activities and have complete architectural elements. Therefore, both are considered suitable to be used as case studies in this study. The locations and pictures of the two case studies can be seen as follows:

Figure 1. Location of West Java Province on the map of Indonesia

Analysis step

As the House of God, the architecture of the mosque has binding and dogmatic rules. This rule is universal, originating from fiqh which regulates the procedures for prayer, purification, marriage, divorce, and pilgrimage (Akkach, 2012; Nasr & Naṣr, 1964). The architecture of the mosque does not escape the meaning embedded by its users. Furthermore, the relationship that occurs between the need for fiqh-based prayer and the wants of pious congregation is in line with conventional structuralism which emphasizes that in life there is always a structure that can be classified, and is formed from community patterns. This basic structure is believed to regulate all community lives, including how people in the community interpret ritual activities as well as certain architectural forms that accommodate these ritual activities.

In line with the notion of structuralism, this study elaborates the understanding of the ritual needs of Islamic religious activities with the principles that underlie property and composition in each scope of architectural anatomy (Piaget, 1995; Salura, 2018). In addition, this elaboration puts forward ideograms and typograms as reading tools to interpret the relationship between needs and wants in mosque architecture. The ideogram formulation is based on the understanding that the nature of human thought cannot be separated from the abstraction that produces symbolic thought. Subsequently, this symbolic thought is strongly reflected in the belief in divine values, which are manifested in certain worship rituals. Thus, it can be understood that the ritual of worship is not pragmatic but always contains a symbolic dimension. Two concepts that are fundamentally (innate) already present in humans and underlie all symbolic thinking about religious rituals, namely the concepts of hierarchy and orientation (Salura, 2018).

In line with this understanding, the ideogram of the need for prayer rituals is a diagram that represents the concept of a hierarchy – the orientation of the stages of prayer ritual activities. While the typogram is the result of searching for the type of mosque building in the two case studies. The search steps for analyzing a case study are:

- First, formulate the ideogram of the mosque which is used as a basic reference for analyzing case studies. In this step, the aspect that will be explored is fiqh which contains the words and deeds of the Prophet Muhammad related to prayer ritual activities which are described with elements that have emerged throughout the history of mosque architecture as a supporter of prayer ritual activities (Hillenbrand, 1994). In addition, the ideogram formulation is not only limited to the space inside the building, but also the environment and site (Davidsson, 1991; Yamadori et al., 1983).
- Second, describe the architectural composition of the mosque in the two case studies. The composition of the architectural property of the mosque in this case study is a representation of the wishes of a particular tradition from its users and designers. Subsequently, the results of this decomposition are described in the form of a typogram.
- Third, juxtaposing the ideogram with the typogram that has been formulated in the previous step. The results of this pairing are assessed using a semantic scale, which produces the following ranges:

- According to the ideogram.
- Following the ideogram but with adjustments.
- Following the ideogram with the addition of architectural property aspects.
- Does not match the ideogram.

Based on these steps, an interesting relationship between needs and wants in a case study of mosque architecture can be positioned.

Result and Discussion

Ideogram formulation based on the needs of prayer rituals in the environment, site, and building scope

This study is in ideal conditions, by adhering to the terminology of the mosque as a place of prostration to Allah. The ideogram formulation begins with compiling the congregational prayer ritual activities based on the fiqh of prayer. Furthermore, the next step is to identify the hierarchy of mosque spaces and masses that are in line with the fiqh of prayer. The hierarchy of space and mass of the mosque based on its prayer ritual activities will be transformed into the nature and composition of activities through the theory of the scope of architectural anatomy. In addition, this includes the relationship of space within the building in the context of the environment scope, site scope, to the scope of building elements, both structural and non-structural. Thus, the resulting ideogram is a representation of the needs of Islamic prayer rituals in an architectural context (Butler et al., 2016; Yurtkuran et al., 2013).

The study results show that the area of prayer ritual activities is divided into three parts that contain hierarchical values: the profane area, which is the place for activities before the process of self-cleaning or ablution; transitional area, which is a place for self-cleaning (thaharah) as one of the conditions for the validity of prayer; the sacred area, which is where the activities of the congregation enter in a clean state after performing the ablution ritual. Besides, the ritual of self-cleaning that should be carried out by all pilgrims at every congregational prayer, in Friday prayers, there is also a sermon. The Prophet himself used to preach twice every Friday prayer. Thus, the sermon becomes important as one of the conditions for the validity of Friday prayers.

Based on the fiqh of prayer, there are five stages of the essential procession which are ideally accommodated by the architectural shape of the mosque. The five processions are: Procession entering the mosque area - purifying oneself (ablution) - calling the call to prayer - Friday prayer sermon - ritual prayer in congregation. In addition, the property aspect of the mosque which is in line with the congregational Friday prayer ritual procession in the neighborhood focuses on the composition of the mosque concerning the axis of the main road and surrounding buildings. The scope of the site focuses on the composition of mass and space based on the hierarchy of ritual activities, as well as the composition of supporting ritual properties on the site. Ideograms describing aspects of property composition based on the congregational Friday prayer ritual can be seen in the

following figure. Ideograms and typograms in the scope of architectural anatomy can be seen in the following figure:

Ideogram	Typogram	
Essential Properties **a.**	Sang Cipta Rasa Mosque **b.**	Salman Mosque **c.**

A. Street with orientation direction
B. Mosque building with surrounding buildings
1. The entrance of the mosque site with the environment

= Qibla Wall

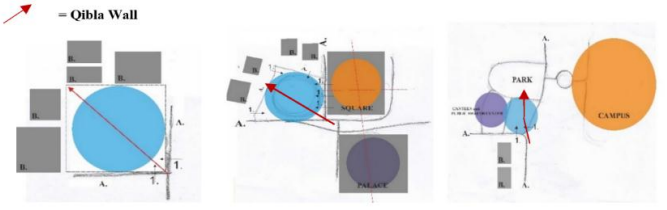

Figure 2. Scope of environment

Ideogram	Typogram	
Essential Properties **a.**	Sang Cipta Rasa Mosque **b.**	Salman Mosque **c.**

1. The mosque entrance boundary area with orientation on the site
2. Site boundary area with the environment
3. Open Area
4. Ablution area
5. Transition area
6. Main Area

= Qibla Wall and main entrance

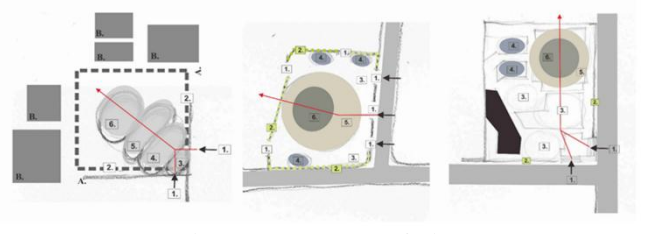

Figure 3. Scope of site

Ideogram	Typogram	
Essential Properties **a.**	Sang Cipta Rasa Mosque **b.**	Salman Mosque **c.**

3. Open Area
4. Ablution area
5. Transition area
6. Main Area

= Orientation

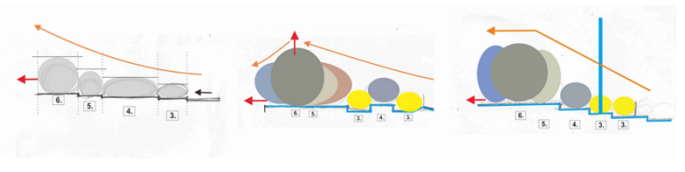

Figure 4. Scope of buildings

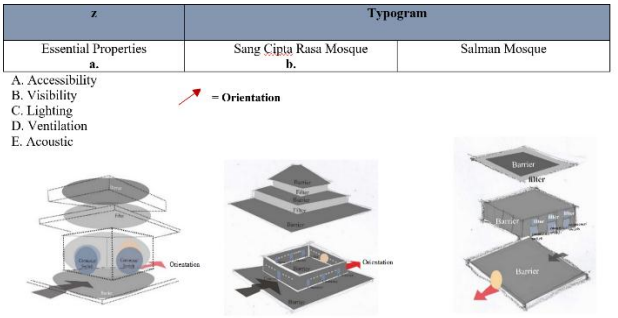

Figure 5. Scope of building envelope in main area)

Comparison of ideograms and typograms in two case studies

Sang Cipta Rasa Mosque (SCR Mosque)

The SCR Mosque is a mosque built in the Kasepuhan Palace complex which is the central area of Cirebon, the old city. This complex is divided into three important elements, namely the palace environment itself, the palace square, and the Sang Cipta Rasa mosque. The location of this square is right between the mosque and the palace, at the corner of the intersection between Jagasatru and Kasepuhan street (Amar et al., 2017; Bauer et al., 2021).

Seeing at the position of the mosque's footprint which is at the confluence of two streets (A) with the mihrab position in the inner room, it appears that the orientation of the mihrab is contextually adjusted to the considerations of the surrounding road. This allows the mihrab which is a sacred area to be in the deepest position of the site or in other words to be at the furthest position from the entrance which is a profane area. However, further observation of the surrounding buildings (B) shows that the position of the square which is in the middle of the palace and mosque sites implies that the square is the focal point between the buildings. Furthermore, the importance of the meaning of the square is also emphasized through the entrance area of the mosque site which only has one street address, namely Kasepuhan street which is directly adjacent to the site of the square. Thus, in the scope of the site, there is one aspect that is by the ideogram, namely the relationship between the street, the orientation of the space in the mosque, and the position of the mihrab wall.

Regarding the scope of the site, the composition of the building mass is by the ideogram, with the position of the mihrab as the holiest area being in the area furthest from the boundary of the site entrance (1). Ritual supporting properties such as open areas (3) tend to turn into transition areas (5), even into main areas (6). Likewise, the composition of the ablution places tends to be organic hence, females and males can mingle when they go to the prayer room area, even after performing ablution (4). In general, it can be seen that there is no clear hierarchical order in the composition of the site area, other than through the distinction between the inner space which is considered sacred, and the outer space which is considered profane. Furthermore, the interesting thing is also seen

in the addition of various element properties to the scope of the site, such as the tomb area that is always present in 15th-century mosques in Java, the kulah pool, the Banyu Cis well which is a metaphor for zam-zam water, the istiwak clock as a timepiece, foyer area, and drums as properties to support the call to prayer. In addition, in this mosque, there is also a maksura which is a place of prayer for the two sultans of Cirebon.

The addition of element properties can also be seen in the building scope. Furthermore, the mihrab area inside the Prophet's mosque is only a wall as a prayer orientation, emphasized by the indentation in the middle of the wall. Structural scoping elements are elements derived from traditional Javanese buildings and the cultural character of these elements is emphasized by the names given, for example, the pillars of the roof of the SCR mosque consisting of four main pillars called the soko guru. These columns support the three-tiered roof which provides a central orientation, in contrast to the linear orientation of congregational prayers towards the Qibla wall. Besides, to the soko guru, there are also soko rawa, which is the edge pole in the main area, and soko tatal, which is a column made of pieces of wood joined together.

The suitability of the property - composition of the building scope with the ideogram can be seen in the difference in the elevation of the floor elements between the open areas (3) - self-cleaning areas (4) - transition areas (5) - main areas (6); with the main area positioned at the highest elevation. This elevation difference is not shown through the bottom (floor) or side (wall) covering elements. Other aspects, such as accessibility, visibility, lighting, ventilation, acoustics, are all consequences of the building form which was adapted from the form of traditional Javanese houses and building technology at that time. In addition, these houses generally do not have walls, except in the senthong area which is also defined as the sacred area located in the deepest part of the building. In the SCR mosque, not only the mihrab area is bordered by a wall, but also the side boundary between the main area and the transition area. In this area, a large wall without wide openings aims to avoid distractions when worshipers carry out their worship rituals.

Figure 6. Sang Cipta Rasa Mosque -Cirebon

Salman Mosque

Similar to the SCR mosque site, the Salman mosque site is also at the confluence of two roads, namely Ciungwanara Street and Ganesha Street. (A). The attitude towards the road can be seen from the two accesses to the location of the mosque

(1). Hence, worshippers can enter through both roads. However, unlike the SCR mosque, there is no relationship between the tread attitude at the intersection with the mihrab orientation. Judging from the mosque's plan, it appears that the mihrab is located close to Ganesha Street which also connects the location of the mosque with the ITB Campus complex. Regarding the surrounding buildings, the Salman mosque is quite dominant compared to other existing buildings (B). Both in terms of the expression of its shape which is different from other buildings in the vicinity, or because the height of the building is more prominent than other supporting facilities in the vicinity.

Regarding the scope of the site, the composition of the building mass on the site is by the ideogram. The user is led through the ritual area in a hierarchical order, and the mihrab position is the furthest position from the entrance to the site. Meanwhile, the difference is that the circulation of achievement from the ablution area (4) to the main prayer area is lateral. Another thing that was found was that the addition of properties at the location of the Salman Mosque was in the range of meeting needs that were still related to prayer rituals; such as mihrab and minaret for pragmatic needs; like an office. Furthermore, the building scope of the Salman Mosque shows conformity with the ideogram with the difference in floor elevation between open areas (3) - self-cleaning areas (4) - transition areas (5) and - main areas (6). The difference is only indicated by the elevation of the lower enclosure (floor) between the transition area and the equivalent main area.

Figure 7. Salman Mosque, Bandung

The Position of the Sang Cipta Rasa Mosque and the Salman Mosque in the Dominant Range of wants and Needs

The results of the pairing ideogram analysis with the typograms of the two case studies can be seen in the following figure:

ARCHITECTURE ANATOMY		SANG CIPTA RASA MOSQUE				SALMAN MOSQUE			
		1	2	3	4	1	2	3	4
SITE SCOPE ESSENTIAL PROPERTIES									
1.	The mosque entrance boundary area with orientation on the site								
2.	Site boundary area with environment								
3.	Open area								
4.	Self-cleaning area								
5.	Transition area								
6.	Main area								
DOMINATION RANGE			4				5		

Figure 8. Needs: scope of environment

ARCHITECTURE ANATOMY		SANG CIPTA RASA MOSQUE				SALMAN MOSQUE			
		1	2	3	4	1	2	3	4
SITE SCOPE									
ESSENTIAL PROPERTIES									
1.	The mosque entrance boundary area with orientation on the site								
2.	Site boundary area with environment								
3.	Open area								
4.	Self-cleaning area								
5.	Transition area								
6.	Main area								
DOMINATION RANGE			4				5		

Figure 9. Needs: scope of Site

ARCHITECTURE ANATOMY		SANG CIPTA RASA MOSQUE				SALMAN MOSQUE			
		1	2	3	4	1	2	3	4
BUILDING SCOPE									
ESSENTIAL PROPERTIES									
3.	Open area								
4.	Self-cleaning area								
5.	Transition area								
6.	Main area								
DOMINATION RANGE		2	2			3			

Figure 10. Needs: scope of building

ARCHITECTURE ANATOMY		SANG CIPTA RASA MOSQUE				SALMAN MOSQUE			
		1	2	3	4	1	2	3	4
SITE SCOPE									
PARTICULAR PROPERTIES									
7.	Tomb								
8.	Porch								
9.	Kulah pool								
10	Narpati main door								
11	Maksura								
12	Mihrab								
13	Pulpit								
14	Banyu Cis Well								
15	Bedug								
16	Istiwak clock								
17	Warehouse								
18	Minaret								
19	Office								
20	Ramp/ Stairs								
DOMINATION RANGE					6				2

Figure 11. Wants: scope of site regarding particular properties

ARCHITECTURE ANATOMY		SANG CIPTA RASA MOSQUE				SALMAN MOSQUE			
		1	2	3	4	1	2	3	4
BUILDING SCOPE									
PARTICULAR PROPERTIES									
8.	Porch								
12.	Mihrab								
13.	Pulpit								
19.	Office								
20.	Ramp/ Stairs								
21.	Warehouse								
22.	Soko Guru Pillar								
23.	Soko Rawa Pillar								
24.	Soko Tatal Pillar								
25.	Minaret								
26.	Mezzanine								
DOMINATION RANGE					6			3	

Figure 12. Wants: scope of building regarding particular properties

ARCHITECTURE ANATOMY	SANG CIPTA RASA				SALMAN			
	1	2	3	4	1	2	3	4
BUILDING SCOPE OF MAIN AREA								
ACCESSIBILITY								
Main area door to orientation direction								
VISIBILITY								
Side boundary between the main area and the transition area								
LIGHTING								
Scope limit for natural light penetration								
VENTILATION								
Scope limit for good air circulation								
ACOUSTIC								
Scope limit for voice delivery optimization								
DOMINATION RANGE			**4**		**3**			

Figure 13. Scope of building envelope in main AREA

Figure description:

- Similar to properties-compositions in ideogram
- Adjustment of properties-compositions in ideogram
- Addition of properties-compositions in ideogram
- No similarities compare to ideogram

Based on figure, the two mosques fulfill the embodiment of essential properties that accommodate the ritual activities of congregational prayers. Further search results show that the design of these mosques is dominated by many new properties that emerge due to the influence of the local community's culture and traditions. For example, the relationship between the mosque and the surrounding buildings shows that the square has an important meaning. Historical records show that the square which is right in front of the palace not only has meaning as an open space but also an extension of the palace complex; where the palace itself is the center of government and culture. Furthermore, the adjustment and addition of properties that are in line with the local culture can be seen in the scoping elements that reflect traditional Javanese buildings, complete with the Javanese-specific naming of the structural columns. In addition to the cultural meaning represented by the *soko-guru*, the *soko-tatal* in the Walisanga mosques has its special features because of the myth-religious values attached to these columns.

Therefore, it is concluded that the comparison results of the building scope specifically indicate that the SCR Mosque is dominated by the influence of particular wants originating from the collective culture and traditions of the local community. The addition of properties can also be seen in the design of the Salman mosque. However, the difference lies in the particular dominant interest of the designer who intends to display a modern expression in the shape of the mosque. In line with this, the design of the mosque stops at the fulfillment of ritual activities, then is given a scoping element that is in line with the rational ideology of modern architecture.

The property aspect addition of the two study cases in each scope shows that the designer has the intention to increase the mosque value. Hence, it not only fulfills the essential property and composition aspect as a place of worship but is also added with wants originating from local cultures as well as traditions, and secular ideologies which at that time are considered appropriate to reflect the spirit of post-independence Indonesia. In addition, this effort is actually in line with the characteristics of humans who never stop giving new meaning to each of their artificial objects. The reasons behind the designer's choice in presenting cultural and ideological meanings are certainly different and their investigation is beyond the scope of this study. This study shows that the attraction between the representation of the ideological meaning of Islamic religion with the meaning of culture and secular ideology has become a challenge for mosque designers. It is hoped that all the architectural properties and compositions of the mosque in the future will not become mere "stickers", losing their religious meaning, but will instead be able to make the congregation aware that they are entering God's House by improving the quality of their worship experience in line with Islamic jurisprudence values.

Conclusion

Based on the analysis results, it is concluded that:

- First, this study produces new reading tools to understand mosque architecture, namely ideograms and typograms. These reading tools can specifically be used to interpret the relationship between the universal needs of congregational prayer rituals, and personal as well as collective wants originating from local community traditions. However, this study is not intended to judge the architectural forms of the mosque created but only to map how the attraction between needs and wants affects the shape of the mosque in each study case.
- Second, it is important to understand that the ideogram is a conceptually ideal construct. Ideograms can be used as guidelines for designing mosque architecture but it does not mean that they can be directly adopted and used as a 'ready-made solution' to create a uniform appearance of the mosque's shape. Therefore, ideograms are not intended to hinder the creativity of designers. Conversely, the creativity of architects to materialize ideograms to keep them under the context becomes very important in the mosque's architectural design.
- Third, the results of the comparison between ideograms and typograms for each study case show that both mosques fulfill the essential aspects of ritual needs, which are dominated by the addition of properties as representations of specific cultural, traditional, and ideological meanings. It is concluded that the shape of the SCR mosque is dominated by local user (community) traditions. Meanwhile, the shape of the Salman mosque is dominated by the specific ideological wants of its designer, which at that time is in line with the spirit of post-independence Indonesia.
- Fourth, the results of this study can be a source of inspiration, and a basis for further and detailed studies on other concepts that affect the diversity of mosque architectural shapes. The reading tools in the form of ideograms and typograms can be applied to other buildings that have similar functions

and even those that have different functions with adjustments. Furthermore, studies aimed at sharpening, complementing, and even discussing the weaknesses from the application of the diagram can be an important input that enriches architectural science.

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