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Research Paper

Spectrum of Meaning in The Architecture of Catholic Church

Case Study: *Salib Suci* Church in Jakarta, and the Church of *Bunda Pemersatu* Monastery in Semarang, Central Java, Indonesia

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Abstract

This study aims to describe all the relationships between the architecture of the Catholic Church and its meaning. The method used for this research are: First, described the building based on the theory about the scope of the building. Second, interpreted the meaning which is created, both on the exterior and in the interior which is based on the theory of semiotics. The results of the analysis showed that the *Salib Suci* Church was dominated by indexical and iconic sign, while in *Bunda Pemersatu* Church, all of the architectural composition as well as its elements was tend to be symbolical which specifically expresses Catholic values. This research contributes to the development of scientific architecture, namely by providing an understanding of the study of semiotics in reading the architecture of the Catholic Church. The research also produced methods to interpret the expression of architectural form in general and specifically on the architecture of Catholic Church. The benefit for practice is that this understanding can be the basis for designing Church architecture. As for the stakeholders, this research can be a source of knowledge about the architecture of the Catholic Church which is in line with Catholic values.

Keywords: meaning, form, architecture, Catholic Church

1. Introduction

The Second Vatican Council (1962-1965) was an ecumenical council of the Catholic Church based on an awareness of the importance of renewal (*aggiornamento*) in harmony with the development of the world[1]. Before the Second Vatican Council, the Catholic Church was present with a rigid and universally enforced Catholic rite. The Catholic Church tended to reject the local culture and replace it with Latin Roman culture. Now, Pope John XXIII states that the Catholic Church does not identify itself with particular particular culture[2]. Similarly, statements in several Church documents indicate that local values are seen as an opportunity to enrich the Catholic Church[3].

In many countries, especially in Indonesia, the spirit of openness of the Catholic Church to this local culture emerges in the design of the Church architecture[4]. The former form of Church expression which adopted Gothic architecture with vertical appearance, now tends to use local form as well as local ornamentation and blends with the surrounding environment[5], [6].

It is believed that the entire creation of architecture was born out of the need to accommodate certain activities[7], [8]. The main function of Church building is to accommodate liturgical activities; the liturgical celebration aims for the people to engage in symbolic activity by uniting the soul and all the senses to praise and worship God[9]. This argument leads to the understanding that the Catholic Church's architectural form, ornamentation, and its figurative elements should be able to convey this symbolic meaning. Mathematics modeling can making the model of surface. The example of mathematics modeling i.e. modeling data [10]–[14].

The importance of meaning in the architecture of the Catholic Church is demonstrated through numerous previous studies which discussed it in the Gothic and Gothic-style Catholic Church architecture[15]. However, there is a scarcity of research about the interpretation of meanings expressed by Catholic Church architecture which designed by adapting the local culture. Therefore, this issue becomes important to be examined more deeply so that the elements of local architecture is #not just a decoration that is embedded in the Church building's facade. As a further matter, this study is important so that the form of Church building that expresses local architecture remain in line with Catholic sacred values.

This study aims to describe all the relationships that are created between the form of Catholic Church architecture and its meaning. The benefits of this research are: Firstly, the formulation of methods and steps to interpret the meaning behind the Catholic Church's architectural form. Secondly, as a reference and source of inspiration for practitioners in designing the architecture of the Catholic Church. Thirdly, this research can also be a source of knowledge for stakeholders and decision makers in the designing and renovation of the Catholic Church as well.

2. Methods

2.1 Case Study

This research is focused on building a Catholic Church designed by Jusuf Bilyarta Mangunwijaya, familiarly called Romo

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Mangun. Romo Mangun is a Catholic priest as well as a culturist, an architect, and a lecturer. The majority of his work is the architecture of the Catholic Church. He is also known as an architect who raised the design concept which is familiar with the social and natural environment. It is also noted that some of his work was awarded by the Ikatan Arsitek Indonesia (IAI). From the entire architecture of the Catholic Church designed by Romo Mangun, two Churches were selected in this study: the *Salib Suci* Church in Cilincing, North Jakarta and the Church building at the *Bunda Pemersatu* Monastery in Gedono, Semarang, Central Java (e.g. Fig.1). These two buildings were chosen because: first, the form of the Church refers to the local architecture; second, there has not been much research which discussed deeply about the architecture of these two Churches simultaneously.

Salib Suci Church (e.g Fig.2-7) was designed in 1982 along with Han Awal (a senior architect in Indonesia) as a forum for fellowship in Cilincing, North Jakarta. The design of the building refers to the shape of the pendhapa (Javanese traditional building), which is generally present without walls. In addition to being inspired by the pendhapa design, building design without walls is also intended to address the hot and adjacent natural conditions of the beach[16].

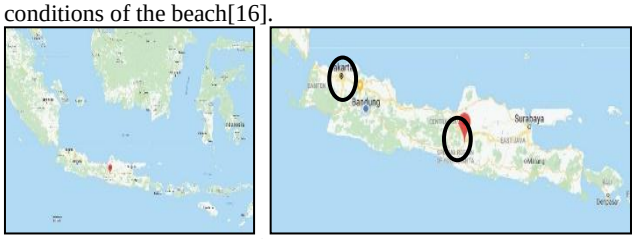


Fig.1: Map of Indonesia and Java Island

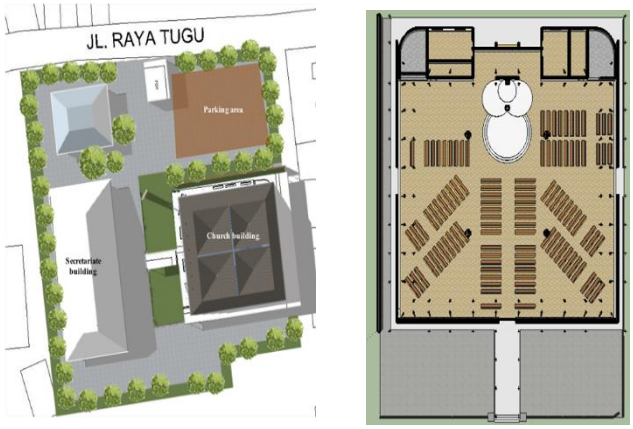


Fig.2a: Site Plan and Floor Plan *Salib Suci*



Fig.2b: Section and elevation *Salib Suci*

Gereja *Bunda Pemersatu* at Gedono, Semarang (e.g. Fig.3), is the first Trappist monastery in Indonesia established in 1987. At the beginning of this hermit crafting process, the pioneering nuns was sent to the Trappistin Retreat in Vitorchiano, Italy, and after that they sent a proposed master plan to Romo Mangun. The masterplan was based on the monastery of their residence in Italy. Romo Mangun overhauled the proposed masterplan of monastery in Gedono with a design that is more in line with the climate and topography of the hills in Gedono area. Romo Mangun designed in accordance with Javanese cultural philosophy, which is warm and friendly. Although the design of Romo Mangun then adapted and continued by Heinz Frick, this design still using the typical ornaments of Gedono as datum.

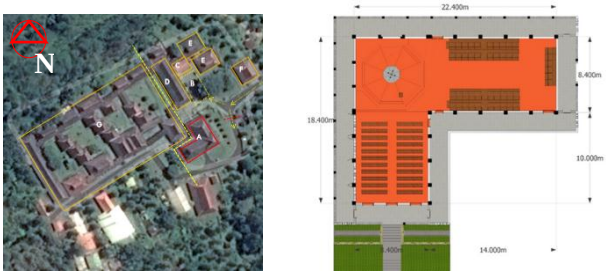


Fig.3a: Site plan and Floor Plan *Bunda Pemersatu*





Fig.3b: Elevation and Section *Bunda Pemersatu*

2.2 Analytical Steps

This research is based on the elaboration of Peirce's semiotics approach. Semiotics can be interpreted as a science that studies about signs and relationships between signs and how humans interpret the sign's meaning[17]. Ferdinand de Saussure, also known as the figure of structuralism, is one of the originators of semiology, which also means the science of signs[18], [19]. At about the same time as Saussure, it was the philosopher and logician, Charles Sanders Peirce, who also put forth the science of signs. In contrast to Saussure's notion that between sign and meaning is arbitrary, Peirce prioritizes three types of relationships, namely the index which based on cause and effect; icons, which are based on similarity (likedness), as well as symbols, based on the convention that was embraced by the society[20], [21].

Everything in the form of physical objects, events, sounds, or sounds can be considered a sign[22]. As a man-made object, architecture is also not free from human needs and desires to convey messages or communicate with each other. Conversely, with or without the designer's intention to convey a message, the expression of the architectural form will always be interpreted by both the observer and the user. The description confirms that the expression of the composition as well as every architectural element can also be classified as a communication medium; or in other words, as a sign. Thus, in this study the shape of the building will be read as a meaningful sign.

Steps to analyze case studies are as follows:

a. Firstly, to describe the building on every scope. The description of the building uses the theory of the scope of the building[23], [24], which is adapted to the movement of the people from outside to enter the building. Description begins with the scope of surrounding, which focuses on the overall shape of the building observed at a distance (3 times and 2 times the height of the building); the scope of the site, which focuses on the observed form of the building from the site entry access site; the scope of space within the building, as well as the scope of the figure.
b. Secondly, to interpret the meaning that is displayed by the expression of the shape of the building on each scope. The interpretation of meaning is based on the previously expressed semiotic theory; in which the meaning created may be based on causality, likedness, or convention. The elaboration of Peirce's semiotics theory yields a range spectrum

of meanings which can be seen in the following figure (e.g. Fig.4) Based on the analysis, it can be expressed the dominance of sign meaning in every scope of building in both case studies.

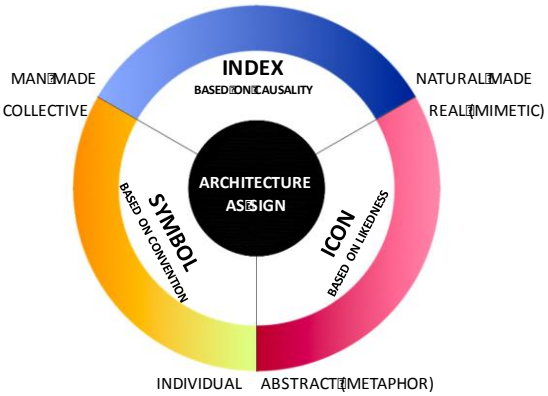


Fig.4: Spectrum of Meaning Diagram as a tool to interpret the case studies

3. Results and Discussion

3.1 Meaning of Signs on the Scope of Surrounding

Observations at 3 or 2 times the height indicate that at this distance, the Church building of *Salib Suci* can not be seen at all. If the observer stood in front of the wall of the Church boundary, then can be seen signage written the Church of the Holy Cross is embedded on the boundary wall (e.g Fig.5). Signage is what shows that the site is a place of Church building. Thus, the dominant sign is the index sign.

In contrast to the Church's parcel of the *Salib Suci*, which tends to coexist with other parcel on a linear roads, the parcel of the Church's *Bunda Pemersatu* is positioned at the intersection of three roads, so that from a distance the Church building is already visible (e,g Fig.5). The ease of the building to see is also supported by the position of the Church's parcel which is at a higher elevation than the surrounding road. Collectively, humans giving meaning that 'above' has a higher hierarchy than 'below'. Thus, although in this Church there is no particular symbol that shows that the building is a Catholic Church, but buildings placed in elevation that higher than the street became a symbol that the building has an important function. Different than the indexical signs in *Salib Suci* Church, the dominant sign in *Bunda Pemersatu* Church is the symbol that tends to be universal (e.g Fig.6).



Fig.5: *Bunda Pemersatu* (left) and *Salib Suci* (right) Church Building as seen from a far

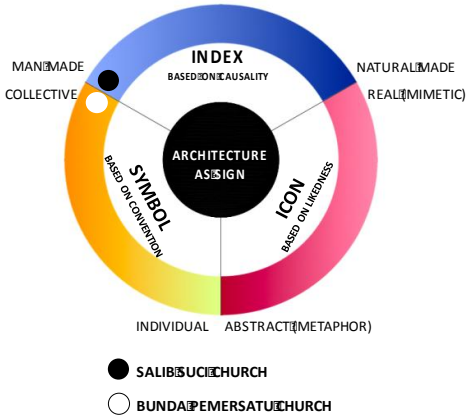


Fig.6: Meaning of signs on the scope of surrounding environment

3.2 Meaning of Signs on Scope of Site

The Church at the complex of *Bunda Pemersatu* Monastery is limited by the filigree fence and is positioned on a higher contour compared to other buildings in the site. Fences and contour differences are collectively interpreted as transitional boundaries between sacred areas (Churches) and less sacred areas (visitors' parking areas, souvenir shops, lodging, hermitage areas). While the overall form of buildings seen from the parking area shows that this Church building has similarity with traditional Javanese buildings (e.g. Fig.7).

The most prominent building element is the *tajug*-shaped roof that tapers upward. In Central Java, this roof is commonly used as a roof for religious buildings, because it is universally believed that the verticality of the roof is a human effort to "reach the sky", and closer to God. In addition to the roof that has iconic meaning as well as this symbolic, no figurative elements or any symbols indicate that this building is a building intended to accommodate the liturgical activities of Catholics. However, based on the position and overall form of the building, it is clear that this building accommodates an important function that has a sacred value compared with other buildings. The dominant sign is a symbolic sign that tends to be universal.

The building of the Church of *Salib Suci* is more difficult to identify because of its similarity with the secretariat building located on the same site (e.g. Fig.7). Similarly, the position of the building does not indicates that the building is a building that accommodates the religious function (sacred). The only element that indicates that the site is designated as a Church building is a monument with a white cross on the top, with a bell and at the bottom of the bell is the inscription "*Salib Suci*" (which is the name of the Church). The sign of the cross is collectively interpreted as the most sacred symbol in Catholicism, but as a whole, the monument placed in front of the Church building is a sign of the index because it only indicates that the building is a Church building (e.g Fig.8).

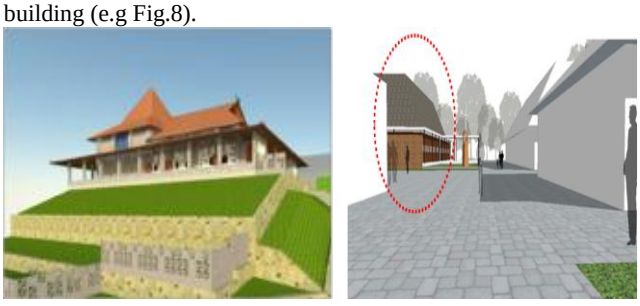


Fig.7: *Bunda Pemersatu* (left) and *Salib Suci* Church (right) Building as seen from site entrance

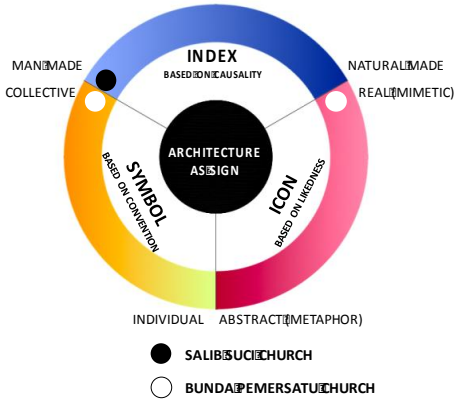


Fig.8: Meaning of signs on the scope of site

3.3 The Meaning of Signs on the Interior Scope

The Church of *Bunda Pemersatu* has an L-shaped plan; with sanctuary as the sacred area on the right side. The area of worship for congregations and nuns is distinguished; the congregation occupies the longitudinal side which is located close to the access site entry, while the nuns' worship area is located on a side that forms a 90-degree angle. With this arrangement, both the congregation and the nun can see all the activities that take place in the sanctuary area clearly, but the group of each other cannot see each other directly.

The whole building is surrounded by a terrace as a *narthex* (less sacred) area. The composition of the floor area of the terrace (*narthex*), the area of worship (*nave*) and sanctuary, the overall arrangement has a difference in floor height. The sanctuary area itself is at the highest elevation. This elevation apart from universal is also a specific symbol of liturgical activity, in which man moves from a profane state to a sacred state to receive the body of Christ. In the sanctuary area there are various Catholic symbols that are specifically used for the liturgical purposes, namely altar, pulpit, cross, tabernacle, and sedilia. The dominant sign of this interior scope is a universal symbolic symbol, and it also contains specific Catholic values.

The dominant sign in the space of the *Salib Suci* Church is the similarity of the four main columns with the *soko-guru* commonly found in traditional Javanese buildings, the *pendhapa*. The shape of the square plan and the existence of the four columns resulted in a tendency towards the center of the building, rather than toward the altar. At this point, the elevation of the floor on the altar and the presence of all figurative elements and liturgical equipment helps the congregation to realize that the altar is the center of orientation as well as the most sacred area. In addition to the indexical sign on the spatial arrangement, figurative elements and liturgical equipment can be categorized as symbols that contain specific Catholic values

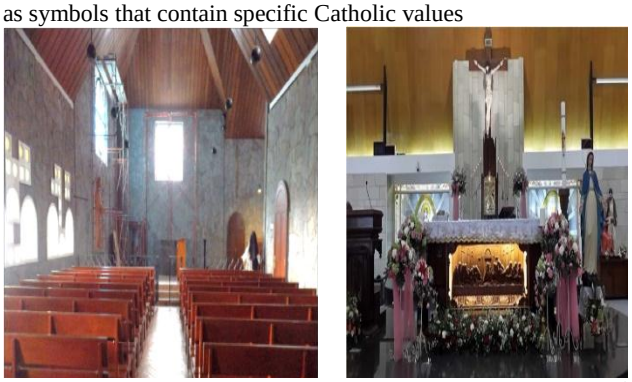


Fig.9: Figurative elements and liturgical instruments in the interior of *Bunda Pemersatu* (left) and *Salib Suci* Church (right)

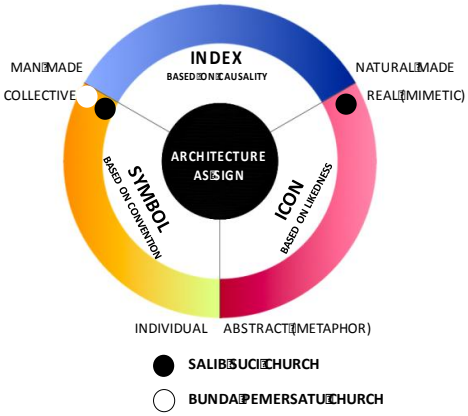


Fig.10: Meaning of signs on the interior scope

3.4 Meaning Signs on the Scope of Shape

The difference of the narthex-nave-sanctuary hierarchy in the Church of the *Bunda Pemersatu* which was shown by the difference in floor elevation, is also shown by the roof elevation (e.g. Fig.11). The roof covering the sanctuary area is the highest roof of its elevation, while the roof of the terrace as a narthex area has a lower roof elevation. This roof arrangement is also interpreted as a universal-symbolic sign. In addition to the roof arrangement, the window elements positioned at the top (close to the ceiling) allow sunlight to enter the Church subtly. In the various religions of the world, the presence of the Creator is often symbolized by the rays of light; thus, light also becomes a religious symbol that tends to be universal. The dominant sign is a symbol sign.

The interior of the Church of the Holy Cross is shaded by a trapezoidal shaped roof (e.g. Fig.11a). Similar to the square shape of the plan, the roof shape also implies that the most important area is the center of the building. This impression is reinforced with a cross-shaped opening at the center of the roof. The cross can be interpreted as a symbol, while the roof shape can be interpreted as an index sign (following the shape of the floor plan). The initial design of the Church of the *Salib Suci* is an open space without walls inspired by the pendhapa design. In the development of its use, installed a folding door of glass as a barrier of noise. The door has a pragmatic function (as an auditorial barrier from outside so that people can follow liturgical activities with auditorial comfort); and can be interpreted as indexical sign. Thus, the sign that dominates on the scope of the Church of the *Salib Suci* is a sign of the index.

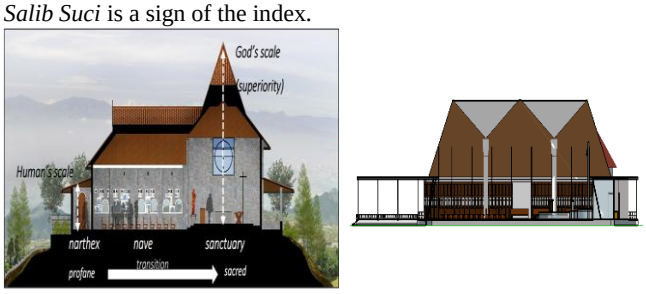


Fig.11a: The roof elevation in *Bunda Pemersatu* (left) and *Salib Suci* (right) Church

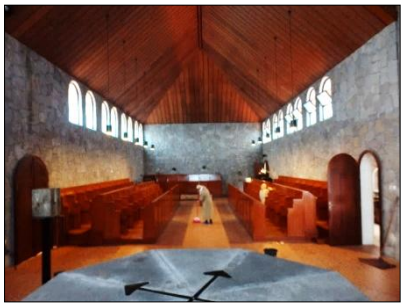


Fig.11b: Position of transparent material in *Bunda Pemersatu* Church

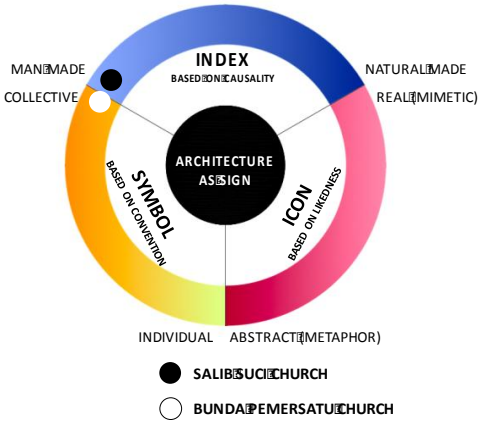


Fig.12: Meaning of signs on the scope of shape

4. Conclusion

The first result of the analysis shows that the composition of space and architectural elements in the Church of the *Bunda Pemersatu* collectively is symbolic meaning. Based on the composition of the space and the arrangement of architectural elements, the building can be interpreted as a building that accommodates the religious function. Figurative elements and liturgical equipment are interpreted as symbolic signs that tend to be specific to Catholic values. From the exterior views, the building is interpreted as a building that accommodates religious activity, while inside of the building, when people see all its elements, it becomes clear that this building specifically expresses Catholic values; in other words, as the 'Catholic Church'. The composition of space and architectural elements in the *Salib Suci* Church tends to be dominated by indexical and iconic signs. Symbolic meaning of Catholic values are found only in figurative elements and liturgical instruments. It can be said that the congregation and observers knew the function of Church building not from the composition of space and architectural elements specifically, but because of figurative elements and liturgical instruments which is a requirement of liturgical activity.

Secondly, this research has successfully formulated a new method for interpreting Catholic Church architectural forms based on elaboration of Peirce's semiotics theory. Through this approach, building can not only be read as an indexical, iconic, or symbolical sign, but the spectrum of meaning of each sign can be read at once.

Thirdly, symbolic meaning not only expressed by the figurative elements or even by the presence of a Christian cross which was the best-known symbol of Christianity; but the overall shape of the building, the composition of exterior-interior space, to all architectural elements could also expressed this symbolic meaning. Thus, the design of Church building must be taken into a careful consideration.

Fourthly, the results of this study are not only intended to complement previous studies on the architecture of the Catholic Church, but at the same time also open the possibility to do other studies that have similar characteristics. A deep understanding of architectural form of the Catholic Church's and how it is interpreted by the congregation and observers will be of great use to architects. This research can be an inspiration for architects to design a new and contextual architecture of Catholic Church which in line with its location and the spirit of its era. At the same time architects also able to accommodate liturgical activities properly and express the symbolic values underlying its celebration of the faith.

References

[1] J. W. O'Malley, *What happened at Vatican II*. Belknap Press of Harvard University Press, 2008.
[2] "Princeps Pastorum (November 28, 1959) | John XXIII." .
[3] "Gaudium Et Spes (GS)." .
[4] H. J. W. M. Boelaars, *Indonesianisasi, dari Gereja Katolik di Indonesia menjadi Gereja Katolik Indonesia*. Penerbit Kanisius, 2005.
[5] E. P. D. Martasudjita, "Proses inkulturasi liturgi di Indonesia - USD Repository." .
[6] P. Salura, "The philosophy of architectural ordering principles," *Int. J. Eng. Technol.*, vol. 7, no. 2, pp. 52–55, 2018.
[7] P. Salura and B. Fauzy, "The Ever-rotating aspects of Function-Form-Meaning in architecture," *Int. J. Basic Appl. Sci. Res.*, vol. 2, no. 7, pp. 7086–7090, 2012.
[8] P. Salura and S. Clarissa, "Interpretation of the Meaning of Mosque Architecture : A Case Study Mosque 99 Cahaya in Lampung , Sumatera Island , Indonesia," *Int. J. Eng. Technol.*, vol. 7, pp. 48–52, 2018.
[9] E. P. D. Martasudjita, *Pustaka Teologi PENGANTAR LITURGI, Makna, Sejarah dan Teologi Liturgi*. Kanisius, 1999.
[10] A. S. Ahmar, Adiatma, and M. K. Aidid, "Crime Modeling using Spatial Regression Approach," *J. Phys. Conf. Ser.*, vol. 954, no. 1, 2018.
[11] A. S. Ahmar *et al.*, "Modeling Data Containing Outliers using ARIMA Additive Outlier (ARIMA-AO)," *J. Phys. Conf. Ser.*, vol. 954, 2018.
[12] A. Rahman and A. S. Ahmar, "Forecasting of primary energy consumption data in the United States: A comparison between ARIMA and Holter-Winters models," in *AIP Conference Proceedings*, 2017, vol. 1885.
[13] N. Kurniasih, A. S. Ahmar, D. R. Hidayat, H. Agustin, and E. Rizal, "Forecasting Infant Mortality Rate for China: A Comparison Between α-Sutte Indicator, ARIMA, and Holt-Winters," *J. Phys. Conf. Ser.*, vol. 1028, no. 1, p. 012195, 2018.
[14] A. S. Ahmar, A. Rahman, and U. Mulbar, "α- Sutte Indicator: a new method for time series forecasting," *J. Phys. Conf. Ser.*, vol. 1040, no. 1, p. 012018, 2018.
[15] J. A. Thomas, "Theory, meaning and experience in church architecture : an investigation into the influences of buildings upon worship and spirituality and their implications for the design and ordering of churches.," 1994.
[16] R. Trisno, "Kesesuaian antara tuntutan liturgi dengan konfigurasi spasial dan bentuk bangunan arsitektur Gereja Katolik : kasus studi Gereja Katedral, Gereja Theresia, Gereja Salib Suci, Gereja Santo Matias Rasul, Gereja Stella Maris di Jakarta," 2017.
[17] W. Nöth, *Handbook of semiotics*. Indiana University Press, 1995.
[18] F. de Saussure, C. Bally, A. Sechehaye, A. Riedlinger, and R. Harris, *Course in general linguistics*. 1983.
[19] T. Hawkes, *Structuralism & semiotics*. .
[20] C. S. (Charles S. Peirce, J. Buchler, and Rogers D. Spotswood Collection., *Philosophical writings of Peirce*. Dover Publications, 1955.
[21] A. Van Zoest, *Semiotika Tentang Tanda Cara Kerjanya dan Apa yang Kita Lakukan Dengannya*. Jakarta: Yayasan Sumber Agung, 1993.
[22] D. Chandler, *Semiotics : the basics*. Routledge, 2002.
[23] P. Salura, *Sebuah kritik : arsitektur yang membodohkan*. Gakushudo Publisher, 2015.
[24] P. Salura, "The confusing languange of building façades observed along ciumbuleuit road in Bandung," *J. Lang. Lit.*, vol. 4, no. 2, pp. 101–105, Nov. 2013.