Application of metaphor and sustainable concepts in art gallery buildings in Jakarta

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Abstract. Indonesia is a country that has a diverse culture which is an art that has been formed by human civilization and where art is an emotion or expression of feelings towards the beauty that is seen or felt by the development of art galleries that can be exhibited or even sold by gallery artist from the country of origin. Welcome his work, and with this gallery building, art lovers can enjoy works that show beauty. Location of the buildings is an area that serves as a fine art gallery in central Jakarta, where the region can build fine art galleries. With the application of the metaphorical architecture concept on the sustainable building consideration, it would be an attraction in the modern era.

1. Introduction

1.1. Background
Art becomes a means of expression for humans. Many works of art and culture require a place not only to showcase their works of art but also as a place for artists to express their feelings and every piece of art that has economic value. Therefore, a place like an art gallery is needed. Many people like to come to art galleries not only for entertainment but also to release fatigue, seek inspiration and enjoy the beauty of existing art.

The building must be able to attract public interest to maximize the function. One of the ways buildings attract interest is through attractive building concepts. Metaphor is a concept that identifies the relationship between objects where the relationship is more abstract. The applied of the metaphorical architectural theme can be seen in the form that aims its identity so that the form of the building can maximize space functions and activities.

Buildings with artistic functions must also become landmarks or point of view. Besides, in order to improve the environment, buildings must also maintain the quality of their environment. Buildings that care for the environment can be seen through the building composition, detailing the facade, and the arrangement of the outer space. Coolness and comfort will be able to be felt by maximizing the airflow potential, water, and preventing the effects of solar heat in the building.

1.2. Problem statement
Artists need art gallery buildings to preserve, exhibit and promote works of art. An art gallery for the community is a place to be creative and enjoy artistic creations. Therefore, the building must support these needs. The sustainable building will result in the comfort and coolness of space. Besides, the
exhibition, circulation, lighting and security systems must consider in order for the building to function optimally.

1.3. Research purposes
The purpose of this research is to provide an idea for the concept of building design for a fine art gallery in Jakarta which can be a place to showcase the works of art of several artists by applying the theme of metaphorical architecture to sustainable buildings.

1.4. Scope
The research scope has an emphasis on planning and design aspects related to architectural science of art gallery buildings along with the additional functions required.

2. Methods
The methods used in this research are study of literature and observation method. A literature study is a method with a system of collecting, identifying, and processing written data obtained as input in the analysis process. Data collection comes from a compilation of reference data taken from books, journals, or other scientific works. Observation method is a method of collecting field data. The data used in this study are data related to art gallery buildings and space programs that have a similar character as a comparative study.

3. Result and discussion
3.1. Selasar Sunaryo art space
Selasar Sunaryo is a painting gallery that is quite famous in the world. This place is one of the recommended places for international art tourism. This place is also the centre of the Indonesian arts centre, which currently accommodates various kinds of works of art from various artists. The name of this gallery is taken from the name of the artist who owns this art gallery, namely Drs. Sunaryo. Meanwhile, the word selasar means that a sunaryo veranda is an open place that can be used by anyone who comes to visit. See figure 1 and 2 below.

Location: Bukit Pakar Timur street no.100, Dago, Bandung.
Architect: Baskoro Tedjo

![Figure 1. Selasar Sunaryo art space’s building mass.](source: www.google.com, 2020)
3.2. *Art science museum*

The Art Science Museum is a museum located in the Marina Bay Sands area. Moshe Safdie designed this building with an iconic cultural concept. The design focuses on the dynamic interaction between art and science. The Art Science museum is situated around a circular base with ten elongated finger-shaped buildings which accommodate twenty-one naturally lit galleries. See figure 3 below.

![Figure 3. Division of space.](source: www.google.com, 2020)

The Museum design consists of two main parts. The base, which is embedded in the earth and surrounded by gulf waters. A pool of giant lilies, and a flower-like structure made of ten petals, is generated by the geometry of spheroids of various radii that appear to float above the bottom of a beautiful pond. See figure 4-8, also table 1 below.

![Figure 4. Exterior of art science museum.](source: www.google.com, 2020)
Table 1. Area function.

| Primary Functions          | Secondary Functions | Supporting Functions          |
|----------------------------|---------------------|-------------------------------|
| Exhibition Area            | Relaxing Area       | Toilet                        |
| Recreational tourism center| Culinary            | Parking, Security Post        |
| Shop and Auctions          | Artist Dormitory    |                               |
| The Artist’s Meeting Room  | Prayer Room, ATM    |                               |

Site location: Kramat kwitang Street RT.3/RW.1, Senen Kec. Senen Kota Jakarta Pusat.

Based on the climatological analysis, the building is oriented to the northwest-southeast, so there needs to be a facade design that can reduce solar radiation to reduce space heat.

The form of a mass composition consists of four mass compositions that have different functions in each mass composition, where their functions are related to one another. The site plan has a fan-like shape consisting of circles and rectangles and has different functions. Roof forms have uneven or wavy surfaces with different heights. The shape of the roof aims to create an open fan shape. From the climatological analysis, there are parts of the wall that will be exposed to high-intensity heat. Therefore, part of the wall is covered by shading.
4. Conclusion
Planning and design analysis describes the things that are applied in this research. Lighting and ventilation techniques are the essential elements of this design. The metaphor concept can be seen in the fan metaphor concept, which shows the value of art visually in art galleries in Jakarta.

5. Application of concepts in design
- Climatological analysis, resulting in facade design as a circular shading building using double glass to reduce exposure to direct sunlight coming from the west of the building. The building needs maximum physical comfort for the gathering facilities of visitors in cafes, restaurants, bookstores and accessories shops.
- The composition of the metaphorical analysis can be seen from the shape of the site. Form of the facade, which is in the form of lines that form like a fan. The building consists of two mass compositions which become one with a connection.
- Natural light enters through the skylights in the circular building atrium.
- Circulation between buildings is designed entirely open in the form of plazas, halls, lobbies and corridors that allow natural air to move from the arrival area to the exhibition space. The garden and water complement the coolness that can bring comfort to visitors.

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