The study of integration public space of apartment in South Jakarta that forms the basis of apartment design

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Abstract. This research shows a study related to aspects - aspects that become the foundation in designing an apartment in the city center. This research is based on the background, that the population of DKI Jakarta population continues to increase and over time the demand for land is increasing. Vertical housing in the city center is a solution to this problem, but many apartments in the city center do not have public space that can accommodate the activities of residents and the surrounding environment. Departing from this, public needs apartments that have public space that can support the needs of residents and the surrounding environment. Based on this, the initial stage of this research was conducted with a competitor study in which data and information will be used as a runway in designing apartments that have public space that can support the needs of residents and the surrounding environment. The study was conducted by interviewing the apartment manager and the data and information obtained were processed using a qualitative approach related to the method of descriptive interviews and quantitative related figures used as benchmarks to get the appropriate area.

Keywords: Public Space, Apartment, City Center

1. Introduction

The increase in the population of Jakarta Capital City (Table 1) continues to increase massively due to the natural growth of the population every year, an increase in the number of 81 people every year. Over time, the rate of land demand in DKI Jakarta has also increased from year to year, while the land supply is not proportional to the magnitude of the number of requests and causes the lack of land for housing. Therefore, vertical housing development needs to be a middle ground on this problem.

Table 1. Population Projection

| Province   | TOTAL Projection of population 2020-2025 (thousand peoples) |
|------------|---------------------------------------------------------------|
| DKI Jakarta| 10645 10729.1 10810.1 10887.8 10962.4 11034               |

Potential and location become one of the most important things in building apartment dwellings, accessibility, facilities and infrastructure, as well as strategic locations are the criteria for apartment
location selection. Setiabudi area (Figures 1-2) is one of the right locations because the location is a primary activity system area that has been stipulated in Article 18 paragraph (1) letter a, this location is determined as forming the spatial structure that has been assigned to the stake 19 paragraph (1) in the Regional Regulation Jakarta Province Number 1 of 2012 concerning RT/RW as a primary area, Setiabudi develops rapidly, especially in vertical and office dwellings.

![Figure 1. North Jakarta](image1.jpg)

![Figure 2. Setiabudi Region](image2.jpg)

This is consistent with the facts obtained from data from Colliers International Indonesia which shows that the vertical occupancy rate is at 95%, especially in Setiabudi, so that the interest of residential apartments in Setiabudi is so great [1]. Referring to the regional spatial plan, this area is a high density area and has an increased demand for our central housing which requires public space to
support the environment in this region. The fact is that there are vertical dwellings in this area that still do not have public space that can support residents and the surrounding environment.

Departing from the Urban Land Institute theory which explains that public spaces are spaces that are human-oriented and as a place or space formed due to the need for a place to meet or communicate[2], this is one of the important things considering the location of the site that is between the transitions Mega Kuningan area and Mughni teacher which is a gathering place and interaction of office workers around. Therefore in this study vertical housing that has public space can be a solution that is solutive to support the needs of the occupants themselves and can support the surrounding environment which is an urban area that requires public space.

The application of public space that can benefit apartment dwellers and the environment around the area, this can also benefit the users themselves, as reported in the Hanwha Life survey with Wahana Visi Indonesia which revealed that public space is very important especially in the business district area because it can have a positive impact for the environment, especially users of the public space itself. In line with the results of the survey Word Health Organizatin (WHO) said that the existence of public space can lead to physical activity and social interactions that improve user health [3].

2. Methodology

In this research study conducted using qualitative and quantitative approaches. The qualitative approach is a descriptive study and tends to use the analysis intended to explain the phenomenon through data collection, using this qualitative approach the results of interviews with comparative studied s or competitors will be made into a complete descriptive along with data and information obtained related to the type of unit, the number of units, facilities and capacities and the size of the area, along with the public space area associated with the commercial area and retail area regarding the number of retail units, the area of the unit and the rental price. In addition, literature studies are also used to obtain data related to the need for this apartment research study, as well as documentation needed regarding photos taken during the survey and recording the results of interviews.

Quantitative approach methods are also used in this research study with the intention to obtain quantitative data measurements on the object of research by producing numerical data in the form of numbers. This quantitative method is to get a calculation related to the percentage of unit type, unit size, number of units, number of occupants, facility size and capacity and also the amount of each retail in the public space area.

The location and object chosen in this research study are based on apartments that have public space that can be accessed by residents and the environment. Location and object of research are, Branz Mega Kuningan, on Jalan Kuningan Barat, Bellagio Residence on Jalan Mega Kuningan Barat, Oakwood Cozmo Premier on Dr. The idea of Anak Agung Gede Agung and Casa Domaine on Jalan Kh. Mas Mansyur. Data obtained after conducting this research are primary data obtained directly from sources such as conducting interviews and secondary data obtained through literature studies, the data and information obtained will be used in this research study.

3. Result and Discussion

After conducting interviews with the managers of the four comparative study apartments or competitors, data were obtained regarding the type of unit, the number of units and the number of occupants, the percentage of facility users along with the area and capacity and the size of each retail unit in the comparative study or competitor. The data will be used as indicators and a foundation in this research study to design apartment dwellings with public space facilities that can facilitate the needs of apartment dwellers and support the environment around the area which is a downtown area. The percentage obtained from the interview results can be used as a reference in getting the percentage that can be implemented in the design, here are the four percentages obtained after conducting the interview:
a. Oakwood Cozmo Premier
- Percentage of saleable area between apartment area and facilities area
  \[
  \frac{\text{apartment area}}{\text{facilities area}} = \frac{30.027.5 \text{ sqm}}{10.930 \text{ sqm}} = 2.74\% 
  \]
- Percentage of saleable area between apartment area and building area
  \[
  \frac{\text{apartment area}}{\text{building area}} = \frac{30.027.5 \text{ sqm}}{69.036 \text{ sqm}} = 0.4\% 
  \]
- Percentage of saleable area between apartment area and building area after deducting basement area
  \[
  \frac{\text{apartment area}}{\text{building area after deducting basement area}} = \frac{30.027.5 \text{ sqm}}{55.836 \text{ sqm}} = 0.5\% 
  \]

b. Casadomaine
- Percentage of saleable area between apartment area and facilities area
  \[
  \frac{\text{apartment area}}{\text{facilities area}} = \frac{63.257 \text{ sqm}}{2.400 \text{ sqm}} = 26.35\% 
  \]
- Percentage of saleable area between apartment area and building area
  \[
  \frac{\text{apartment area}}{\text{building area}} = \frac{63.257 \text{ sqm}}{86.000 \text{ sqm}} = 0.7\% 
  \]
- Percentage of saleable area between apartment area and building area after deducting basement area
  \[
  \frac{\text{apartment area}}{\text{building area after deducting basement area}} = \frac{63.257 \text{ sqm}}{72.800 \text{ sqm}} = 0.8\% 
  \]

c. The Bellagio Residence
- Percentage of saleable area between apartment area and facilities area
  \[
  \frac{\text{apartment area}}{\text{facilities area}} = \frac{76.497 \text{ sqm}}{52.800 \text{ sqm}} = 1.4\% 
  \]
- Percentage of saleable area between apartment area and building area
  \[
  \frac{\text{apartment area}}{\text{building area}} = \frac{76.497 \text{ sqm}}{159.660 \text{ sqm}} = 0.48\% 
  \]
- Percentage of saleable area between apartment area and building area after deducting basement area
  \[
  \frac{\text{apartment area}}{\text{building area after deducting basement area}} = \frac{76.497 \text{ sqm}}{137.595 \text{ sqm}} = 0.55\% 
  \]

d. Branzz Mega Kuningan
- Percentage of saleable area between apartment area and facilities area
  \[
  \frac{\text{apartment area}}{\text{facilities area}} = \frac{33.458 \text{ sqm}}{440 \text{ sqm}} = 76\% 
  \]
- Percentage of saleable area between apartment area and building area
  \[
  \frac{\text{apartment area}}{\text{building area}} = \frac{33.458 \text{ sqm}}{71.500 \text{ sqm}} = 0.46\% 
  \]
- Percentage of saleable area between apartment area and building area after deducting basement area
  \[
  \frac{\text{apartment area}}{\text{building area after deducting basement area}} = \frac{33.458 \text{ sqm}}{60.500 \text{ sqm}} = 0.55\% 
  \]

After obtaining data related to these four comparative studies or competitors, the data and information are used as a benchmark and basis for this apartment research study and the results of this research study are:

a. Unit type
   Referring to the analysis and discussion of comparative studies or competitors of the four apartments, it is found that, the most desirable type of units and quickly sold are the type of studio units with an area of 28 sqm, 1 bedroom with an area of 54 sqm and 70 sqm, and 2
bedrooms with an area of 76 sqm, 77.8 sqm, 133 sqm and 147 sqm. The data is used as an indicator in determining the type of unit along with the percentage of the number of unit types itself to the occupancy area in this study, the unit types and percentages obtained are as follows:
- 1 bedroom area of 45 sqm with a percentage of 75%
- 2 bedroom area of 76 sqm with a percentage of 25%

The percentage is obtained from the results of analysis and discussion related to the type of unit that is most desirable and quickly sold. The location of the site of this research study many are interested and quickly sold to type 1 bedroom and type 2 bedroom because those who choose to live here are local workers around the area which is an office area. After getting a percentage for this type of unit, we can know the total number of apartment units:

- **FAR (Floor Area Ratio)**: 12.195 sqm
- **Podium**: 2.243,4 sqm
- **1 bedroom**: 75% with the area 45 sqm
- **2 bedroom**: 25% with the area 76 sqm

The occupancy area and total apartment units are based on unit type:

- **1 bedroom**
  - **Apartment area**: 7.463,7 sqm x 75%
  - **Total unit type**: 5.597,55 sqm
  - **: 124 unit**

- **2 bedroom**
  - **Apartment area**: 7.463,7 sqm x 25%
  - **Total unit type**: 1.865,925 sqm
  - **: 25 unit**

So, the total type of the whole unit is as much 149 unit.

b. The total number of apartment dwellers

After knowing the area of apartment units and total apartment units, the following are the total number of apartment units that will be a comparison of the percentage of facility users:

- **1 bedroom**
  - **: 124 unit x 2 occupant**
  - **: 248 occupant**

- **2 bedroom**
  - **: 25 unit x 4 occupant**
  - **: 100 occupant**

The total number of apartment occupant is, 248 occupant 1 bedroom + 100 occupant 2 bedroom = 348 apartment occupant.

c. Apartment facilities and their capacities and area capacities

Referring to the results of the analysis and discussion on comparative studies or competitors that have been done previously it is known that from the four comparative studies or competitors the facilities offered are equivalent to five-star hotels with approximately the same size and capacity. The facilities offered are generally the same as the capacity and area provided are also almost the same as in the swimming pool, gym, multipurpose room, garden area, and parking, so this is an indicator for this apartment research study, so the facilities and capacity and area provided in this research study are shown in Table 2.
# Table 2. Results of research facilities and the capacity and space area of the research

| Facilities     | Area (sqm) | Capacity (people) | Area (sqm) |
|----------------|------------|------------------|------------|
|                | W          | L                |            |
| Swimming pool  | 10         | 25               | 20         | 250        |
| Yoga area      | 5          | 7                | 2          | 35         |
| Fitness        | 8          | 10               | 10         | 80         |
| Function room  | 7          | 8                | 15         | 56         |
| Playing area   | 5          | 4                | 3          | 20         |
| Parking        |            |                  |            | 65         |

The following explanation is related to the overall facility area:

The total area of the facility along with the circulation: 441 sqm x 40% = 617.4 sqm

d. Percentage of facility users to the total apartment occupants

The percentage of facility users to the total apartment occupants based on the analysis and discussion that has been done to the four comparative studies or competitors states that all percentages of facilities are below 10% and specifically for career facilities provided the percentage varies depending on the number of parking slots provided and policies. From the manager of the apartment, it is known that the apartment occupants do not use the facility within a period of each day and at the same time but the occupants use the facility only on weekends and not all residents use these facilities because more of them choose to spend weekend time for traveling. In this research study the percentage of facility users to total apartment dwellers is shown in Table 3.

# Table 3. Percentage of facilities users to apartment occupants for research

| Facilities     | Capacity (people) | Number of units | % Use of Facility |
|----------------|-------------------|-----------------|------------------|
| Swimming pool  | 20                |                 | 5.747            |
| Yoga area      | 2                 |                 | 0.575            |
| Fitness        | 10                | 348             | 2.874            |
| Function room  | 15                |                 | 4.310            |
| Playing area   | 3                 |                 | 0.862            |
| Parking        | 65                |                 | 18.678           |

e. Commercial area or retail area

After analyzing and discussing the four comparative studies or competitors there is a fact that all comparative studies or competitors of the apartment have a retail area or commercial area that is generally provided and presented to accommodate and support the needs of the residents of the apartment itself, but due to its location and the location of this apartment is very strategic so that the retail or commercial area can facilitate and integrate with the surrounding environment which is an office area.

Public space or commonly known as commercial areas or retail areas if maintained and managed creatively can actually be a profitable business, so that successful public space can drive up the rental price of the building itself. Basically the commercial area or retail area contained in the four comparative studies or competitors has an area, rental prices and services that are almost the same, the area of the retail area or commercial area itself is 110 sqm - 546.5 sqm with a rental price of Rp. 250,000 - Rp. 400,000 / sqm / month and the price of the service charge is Rp. 25,000 - Rp. 50,000 / sqm / month, after obtaining indicators for this research study, the following is the elaboration of retail area along with the fixed rental price, as shown in Table 4.
### Table 4. Retail area, retail unit area and rental price

| Unit | Floor | Area/unit (sqm) | Building Area (sqm) | Apartment | % | SC/sqm | Rental price |
|------|-------|-----------------|---------------------|-----------|---|--------|--------------|
| 5    | 1     | 110             | 12195               | 9951.6    | 2243.4 | 81.60  | 18.40 Rp. 25000 Rp. 30000 |

After obtaining the number of retail, retail unit area, and rental prices that are pegged in this apartment research study, it is known that the area needed for commercial areas or retail areas that will be made public space and accessible to the public are as follows:

The total area of the entire retail area and circulation
- 5 unit x 110 sqm
- 550 sqm
- 550 sqm x 40 %
- 770 sqm

With a total of 1 floor that will be used as a commercial area or retail area, the area to be used as a retail area or commercial area will be the area of KDB: 1,626 sqm, so it can be seen that the rest of the KDB area will be used as an apartment lobby and terrace area and other space requirements.

### 4. Conclusion

Conclusions that can be drawn after conducting research and analysis and discussion in the previous chapter, that are:

- Interest in units sold for the Setiabudi area, especially the Mega Kuningan area, namely the type of studio units, 1 bedroom and 2 bedrooms, for the area of studio units that is 28 sqm, 1 bedroom with an area of 54 sqm and 70 sqm and 2 bedrooms with an area of 133 sqm, 147 sqm, 76 sqm and 77.8 sqm. Seeing the results of the research and analysis, the percentage of unit types that will be implemented in this research study are as follows:
  1. The type of 1 bedroom unit is 75% with an area of 28 sqm, 54 sqm and 70 sqm
  2. Type of 2 bedroom units is 25% with a range of 133 sqm, 147 sqm, 76 sqm and 77.8 sqm

- In the analysis and discussion related to facilities that can support and accommodate the needs of apartment dwellers in accordance with the four existing apartment appeals studios, conclusions can be drawn, these five apartment appeals studios have facilities that regulate the equivalent of a five star hotel with less space and capacity. almost the same. Based on the analysis and discussion that has been done in the previous chapter, each facility provided by the apartment to support the needs of residents, such as swimming pools, sports areas, multipurpose spaces, garden areas, and also parking with the same size and application capacity is the same. become an indicator for this apartment research study so that conclusions can be drawn about the facilities that will be implemented in this research study along with the capacity and area can be seen at Table 2.

- Percentage of facility users based on the number of apartment dwellers after analyzing and discussing in the previous chapter it is found that the overall percentage of facility users for the number of apartment dwellers is below 10% and specifically for parking facilities provided the percentage varies depending on the number of parking slots provided and apartment management policies in providing parking slots for each type of apartment unit, it can be concluded that the percentage of facility users for the number of apartment occupants in this study is also below 10% and for parking slots given for each type of unit specifically for 1 bedroom 1 : 3 whereas for type 2 bedroom 1:1 it refers to the KTB that is in accordance with the RTRW that has been given.

- Not only facilities that can support the needs of apartment dwellers themselves in the previous chapter related to the analysis and discussion that have been done, the apartment also provides public space facilities that are basically provided for apartment dwellers, but because of the location of the apartment study competition or competitors itself is located in a strategic location that is in the office area making this public space integrated and can benefit the surrounding...
environment which incidentally is an office worker. Public space is a commercial area or retail area with tenants that dominate namely food and beverages and supermarkets. The size of each unit for the commercial area also varies according to regional conditions and the site area of each apartment, the area presented is 110 - 546 sqm. The price offered for tenants as tenants of the unit also varies from Rp. 250,000 - Rp. 400,000 /sqm/monthly and the price for the service charge provided is Rp. 24,000 - Rp. 50,000 /sqm/monthly with a very small percentage of retail compared to occupancy that is, below 20%. After getting benchmarks for commercial areas or retail areas, it can be concluded that, given the research location which is right in the area between the Mega Kuningan area and the Gatot Subrota area where the two areas are office areas and the city center makes a strong potential to add public space where public space itself is needed in urban areas. The implementation of commercial areas in this research study related to tenants, rental prices, percentages, and area of retail units are as follows:

1. The tenants chosen for this commercial area are food and beverages and minimarket because the location in the city center and right in the office area makes the tenant the right choice.
2. The rental price is set at Rp. 300,000 /sqm/monthly with a service charge of Rp. 25,000/sqm/monthly
3. Percentage of retail area usage over building area is 18% retail
4. The area of retail units to be leased is 110 m² with a total of 5 retail units.

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