



CO-WORKING SPACE DESIGN WITH THE APPLICATION OF TROPICAL ARCHITECTURE IN THE FIELD

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ABSTRACT

Economic growth in Medan will increase in 2022 by 4.71%. Economic growth is increasingly developing, which is gradually contributing to the decline in unemployment rates in Medan. Based on statistical data (2020), the unemployment rate decreased by 10.74% from the previous year in the last 3 years. However, many unemployed people in Medan are classified as open unemployment with the causal factor being layoffs. However, even though the unemployment rate is almost decreasing every year, population growth is also increasing every year, this also has an effect on increasing the workforce in Medan. The increase in the number of workers every year requires balancing the number of jobs that are not proportional to the number of employees available and many workers choose to start new independent businesses as entrepreneurs or freelancers. Therefore, it is necessary to plan shared work space facilities or what is better known as Co-Working Space as a method of working with other people from different companies/organizations in one place and being able to work together in a situation like this. Located on Jalan Gajah Mada, Medan Baru District, Medan City. The general method for designing co-working spaces with the Tropical Architectural Concept uses qualitative and programmatic descriptive methods to explain problems and describe existing conditions and climate conditions in the city of Medan and is identified in accordance with theories and standards that have been used.

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1. INTRODUCTION

Co-Working Space is a new form of office typology, namely a rental office that adapts to developments in ways of working that are changing to become more flexible. This is based on the pattern of relationships between workers which continues to evolve to the current networking-based form of work (Valentina Kris Utami, 2017). Co-Working Space is basically a workspace concept that can be used together with start-ups or other companies. In general, Co-Working Space has the impression of a homely space and is supported by many supporting facilities such as document printing machines, internet networks, coffee shops, libraries, as well as flexible work spaces or 24-hour access.

Co-Working Space has become an increasingly popular phenomenon in various countries, such as London and England. Several years later this phenomenon increasingly increased in various big cities in the world. Start-up businesses are increasingly developing with the presence of co-working spaces. This phenomenon will continue to increase with changes in performance and be able to compete at the global level. (Valentina Kris Utami, 2017)

Co-Working Space phenomenon has developed, marked by the establishment of the Indonesian Co-working Association. There are around 150 Co-Working Spaces in Indonesia. As the startup world develops and the number of freelancers in Indonesia increases, creative industry players need a place to work and collaborate

together. (Valentina Kris Utami, 2017).

Economic growth in Medan will increase in 2022 by 4.71%. Economic growth is increasingly developing, which is gradually contributing to the decline in unemployment rates in Medan. Based on statistical data (2020), the unemployment rate decreased by 10.74% from the previous year in the last 3 years. However, many of the unemployed in Medan are classified as open unemployment with the causal factor being layoffs. However, even though the unemployment rate is almost decreasing every year, population growth is also increasing every year, this also has an effect on increasing the workforce in Medan.

The increase in the number of workers every year requires balancing the number of jobs which is not proportional to the number of employees available. Therefore, many workers choose to start new independent businesses as entrepreneurs or freelancers. Over time, Medan has contributed to the creative economy in Indonesia with a value of 0.28% of the total. Medan is a developing city that supports economic development through the creative economy. Thus, the large number of freelancers and independent workers (entrepreneurs) in Medan every year proves that Medan itself has the potential to reduce the number of unemployed.

The design of Co-Working Space with the application of Tropical architecture in Medan is expected to facilitate a shared space that is used for the development of entrepreneurs or freelancers in carrying out their work and can create good interactions.

2. METHODE

Design methods used in designing co-working spaces in Medan is emphasizing tropical architectural methods. With approach tropical architecture, co-working space design can balance harmony and balance design with understanding to utilise savings energy. Planning done to achieve the objectives and functions achieved, several methods or approaches are used, including data collection methods, literature studies, site location surveys, discussion and analysis of data as well as formulation of design concepts. The data collection stage can involve various data sources to meet the needs for using the data. Data collection is divided into several stages so that the intent and purpose of using the data is clearer along with the source. The co-working space design process consists of a Function Concept in the form of space and facility requirements. Internal concepts are obtained based on internal analysis with results in the form of a spatial relationship matrix, space requirements, schematic plans. The external concept was obtained based on external analysis, consisting of floor plans 1 and 2, orientation, circulation, vegetation, zoning and accessibility. mass composition concept, structure concept, utility concept consisting of clean water, dirty water and drainage networks, electrical installation concept.

The design of the co-working space carries the concept of Tropical Architecture with two functions, namely the main function of working, creativity and socializing, as well as the function supporting, namely commercial functions. The next design process follows five sequential steps, namely data collection (building and site), programming phase (building and site), analysis (building and site), concept (building and site), and synthesis (Nuraini & Sudrajat, 2010). When planning and designing shapes, we must always consider morphology. Each building function will be related to the morphology of the shape, so the shape transformation of the proposed design needs to be analyzed. The overall design process can be seen in Figure 3.

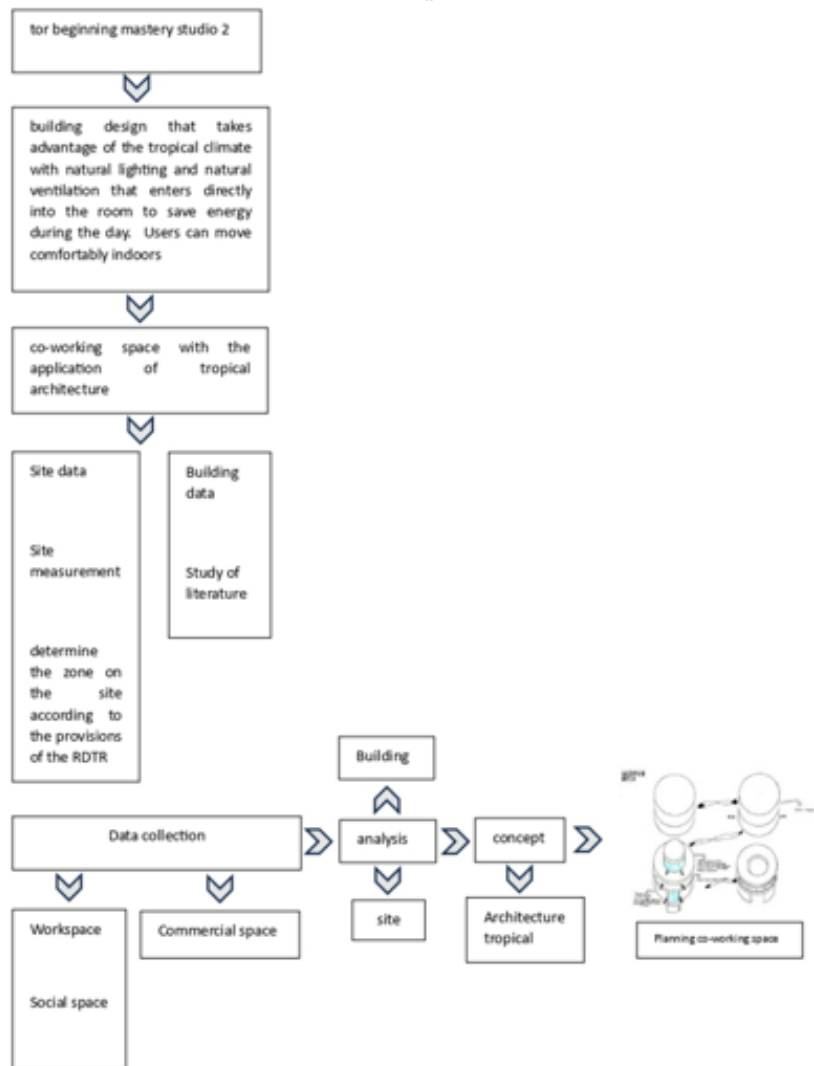


Figure 3. Design Process
 (Source: Author Construction, 2023)

4. RESULTS AND DISCUSSION

Election location planning based on function on planning that is co-working space with facilitate room together and based on the title the site design is in Medan part of Medan Baru District on Jl. Gajah Mada. The land use that has been determined in Plan Details System Room Year 201 5-2035 as commercial area with wide site as big as 900.45 m².

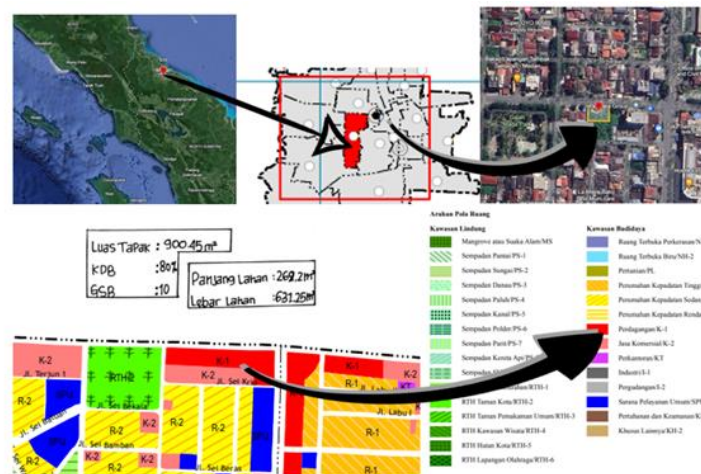


Figure 4 . Design Location

(Source: Processed by the author based on Google Earth, 2023)

Function on planning co-working space in Medan leads to a continuous review of activities with shared resources and ongoing activities. Co-working space is a place that is a forum or facility for entrepreneurs and freelancers with a purpose doing work, self-development, being innovative. Planning Co-working space in Medan has three functions: primary, secondary, and tertiary.

a. Primary Function

The primary function is the dominant function which consists of office functions. Office function is a function which supports the community in that it offers sufficient sharing areas to accommodate the activities of office workers, especially startup businesses and communities.

b. Secondary Function

Secondary functions are functions that arise as a result of the activities of the primary function used to support main activities. Secondary functions consist of management functions and functions of worship. The management function is responsible for managing ongoing activities of co-working space design in terms of accommodation, administration and maintenance on the building. The worship function is a function that provides a place of worship in the form of a prayer room for employees for worship.

c. Service Function

Service function is a function supporter from all activities which take place on the building. The service function in the form of these facilities provides services related to user needs including network telecommunication, network electricity, vertical circulation and toilet. Parking function is the function of providing space for parking for users and managers. Pantry function is a rest function for employees.

The Conceptual

At the beginning stage, analysis carried out is to identify the function of Co-Working Space. Design plan Co-Working Space has three main functions: communicating with the company, serving and meeting, 2 supporting functions: socializing, serving, 1 complementary function: cleaning service, as shown in figure 4 and 5. Third main function, support function, complementary function. This targeted for can encompass and accommodate the users.



Figure 5. Base conceptual Co-Working Space. The space takes the transformation of a circular shape with a void in the middle to utilize sunlight entering the building during the day and the wind blowing into the building through openings which is in line with the Co-Working theme, namely tropical architecture. The shape transformation process is shown in figure 5.

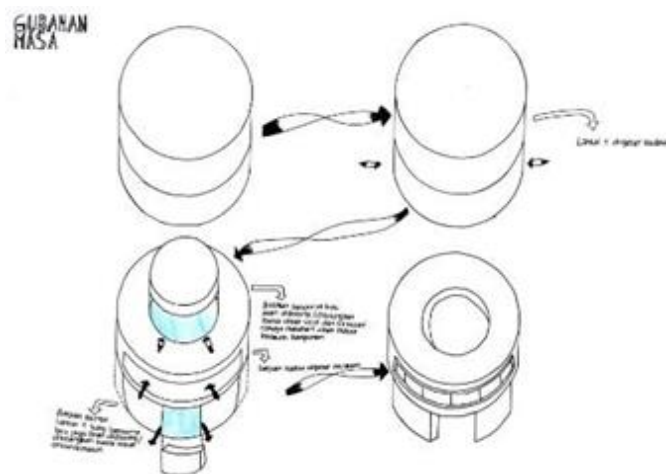


Figure 5 . Shape transformation process

Source : Analysis Author , 2023

Co-Working Space Design

Co-Working Space which functions as an office function and community center which offers sufficient sharing area to accommodate office activities, especially startup businesses and communities (Valentina Kris Utami, 2017) was built on empty land with a diameter of 720m2.

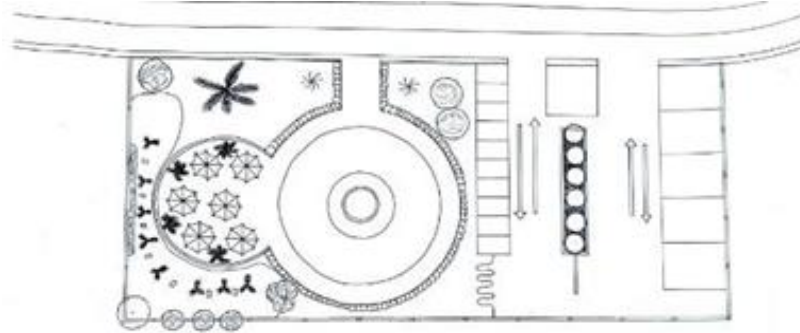
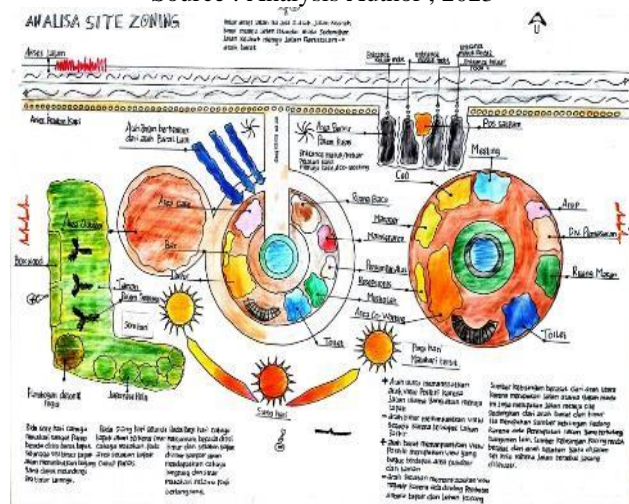


Figure 6 . Co-Working Space Site Plan

Source : Analysis Author , 2023



On the site's existing circulation and utilities, the location is Jalan Gajah Mada, Kec. Medan Petisah, Medan City as the site of the Co-Working Space is surrounded by main circulation and pedestrians on each side of the building. Sewerage channels with access routes are located on each side of the site area and also maintain the existing site in terms of the good and proper utility route arrangement, as shown in Figures 7 and 8 .

Figure 7 . Circulation

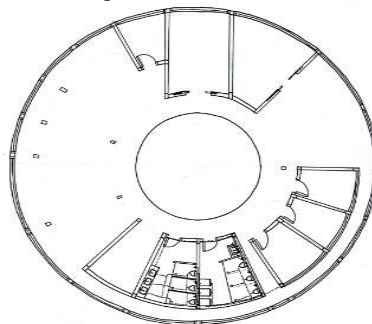
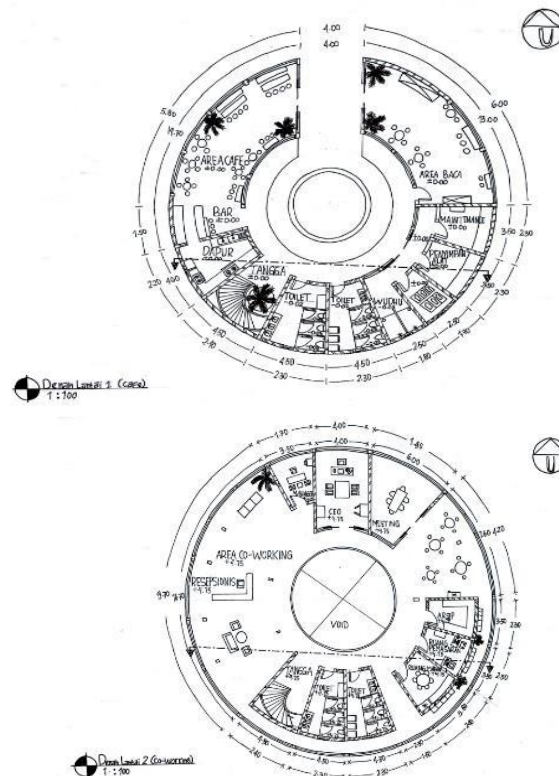


Figure 8 . Utility Plan

Source : Analysis Author , 2023



Co-Working Space is designed to accommodate communicating, serving, socializing. Commercial activities are accommodated by providing a café that provides food and drinks. The Co-Working Space plan is shown in figure 9.

Figure 9 . Flying Space Floor Plan
 Source : Analysis Author, 2023

The main structure of the Co-Working Space is dominated by the footplate foundation structure . Roof frame construction using concrete roofing. This structure was chosen because it has better shape flexibility and strong structural resistance, resulting in a Co-Working Space building that looks more modern and is acceptable to the public. Users can access the Co-Working Space via the main road. This access is planned to make things easier for pedestrians.



Figure 10 . Roof Plan
 Source : Analysis Author , 2023

Footplate foundation structure is because this type of structure has several advantages, namely its structure can accept the above loads. This is because each load is distributed specifically in such a way that a working load transfer mechanism occurs into axial loads. As a result, all paired elements can be used to their maximum potential.

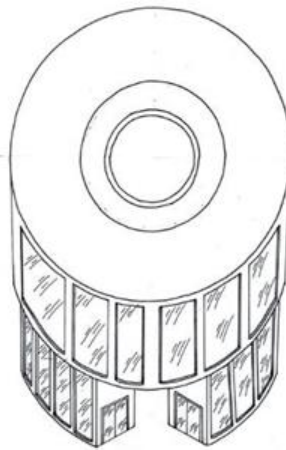


Figure 1 3 . Exterior Atmosphere
Source : Analysis Author , 2023

5. CONCLUSION

The Co-Working Space design which applies the concept of local wisdom is realized in the form of a modern design that is transformed from a circular shape. Application of a tropical architectural concept that influences the climate on the Co-Working Space by paying attention to thermal comfort, sun orientation, air flow and natural lighting entering the building. This co-working space is an office function that combines the functions of a community center and a commercial area. Co-Working Space Design

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