



## Arrangement of Office Interior Layout Designs Using Multifunctional Furniture in CV Archi Design Studio Home Offices Semarang

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**Abstract.** Offices located in residential areas with limited land need more careful planning so that the office remains professional even though it is located in a residential area. The use of appropriate furniture needs to be arranged so that the office space can accommodate the activities of an office. Arranging space using multifunctional furniture is a solution to make maximum use of space. Designing multifunctional furniture that suits the function of the office space is very necessary so that the office looks neater and more beautiful it can increase the professionalism of the office. An office that is not well organized will reduce client confidence in the company's performance. This research aims to design multifunctional office furniture that can accommodate office activities in limited space to maximize the function of the space. This research method uses a qualitative method by collecting information, namely field surveys, literacy studies, and interviews at the CV Archi Design Studio limited land office in the city of Semarang. From the research results, the interior layout of the office was analyzed using multifunctional office furniture that was appropriate to the limited space. The results of this research are a recommendation for interior space layout design using multifunctional office furniture that is suitable for small office spaces. With this research, it can be concluded that it is important to organize a good office space by using the right multifunctional furniture so that the office looks neater, more beautiful, and more functional.

Keywords: interior design; multifunctional furniture; office furniture; home office

### I. Introduction

The houses are used as offices in big cities in Indonesia, including the city of Semarang. Offices located in residential areas generally have a small area of land, so good interior design is needed so that the office space looks neat, beautiful, and functional even though the space is limited [1]. Due to the problem of limited space, home office owners are required to be more careful in choosing furniture to complete the need for furniture that suits the function of the office space [2].

Despite their restricted size, office spaces mirror corporate culture, reflecting the company's ideals and approach to employee well-being. This makes office space design an important problem. For designers and entrepreneurs looking for ideal working environments that will support increased productivity, employee health, and company culture, a scientific investigation of these topics might offer useful information [3].

Inappropriate furniture selection can overcrowd the space and cause a lot of irregularity and wasted space. Flexibility is designed to improve the quality of life in interior architecture. Multifunctional furniture as a flexible method can increase space sustainability and improve the quality of life by carrying out several functions at once. This type of flexible furniture can balance the space in terms of beauty and efficiency [4].

Multifunctional furniture is known as a type of furniture that serves more than one or several purposes and supports several activities at the same time. Other terms for multifunctional furniture include space-saving furniture, multi-purpose furniture, and transformable furniture. The main purpose of multifunctional furniture is to further increase space efficiency in limited interiors. This type of furniture that has many functions is most effective, especially in places with limited space [5].

The Multifunctional Concept refers to the idea of creating one product with multiple uses. For example, a sofa that can be converted into a bed is ideal for limited space, as well as a table that has multiple functions, etc. The use of limited space inspired the creation of this concept. Multifunctional furniture offers solutions that are in line with needs, not only in terms of functionality but also in terms of unique shapes, details, colors, and distinctive artistic value [6].

Architects and interior designers are increasingly innovating in creating solutions that can help society by applying the principles of multifunctional furniture which consists of 2 or more functions in one furniture object [7]. The development of multifunctional furniture design ideas is in line with the principles of Anthropometric and Ergonomic theory, which are important factors in creating comfort for humans in their activities. Anthropometric theory is a science that studies human body measurements as a guide for calculating differences in size for each human being, as well as its relationship with furniture design and interior room circulation [8].

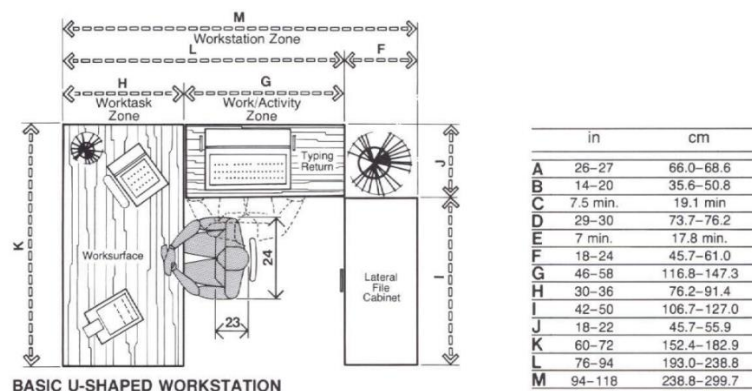


Figure 1. Basic U-Shaped Workstation

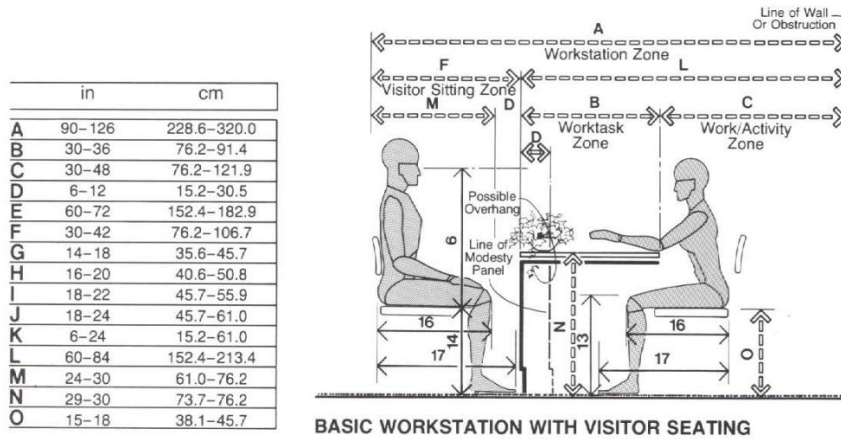


Figure 2. Basic Workstation with Visitor Seating

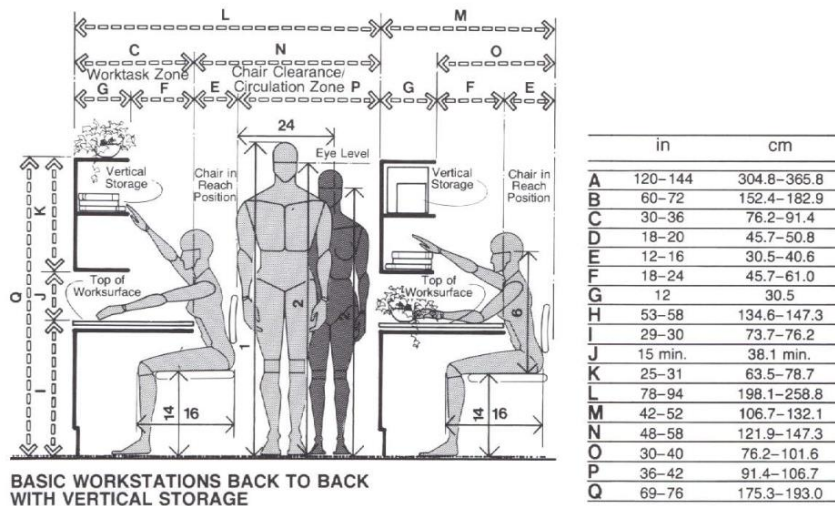


Figure 3. Basic Workstation Back-to-Back with Vertical Storage

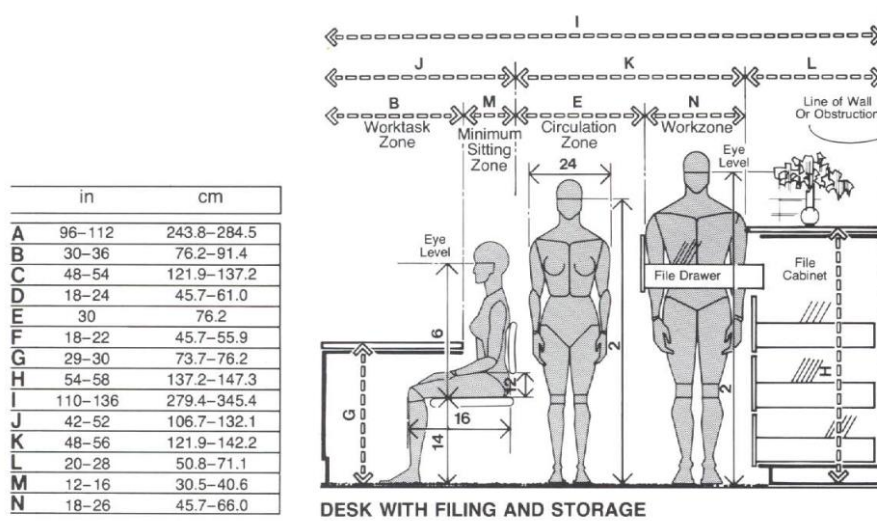


Figure 4. Desk with Filing and Storage

Understanding what prior researchers have discovered about multipurpose furniture in literature reviews is crucial to comprehending how multifunctional furniture affects space efficiency in a home office [9].

Designing multifunctional furniture that suits the function of the office space is very necessary to increase the professionalism of the office. In this research, we can design multifunctional office furniture that can accommodate office activities in limited space to maximize the function of the space. The results of this research can provide recommendations for arranging interior layouts for office spaces that are functional, beautiful, and unique as well as recommendations for multifunctional office furniture designs that are suitable for a home office building.

## 2. Methods

This research method uses descriptive analysis methods and a qualitative method approach. It was conducted using a qualitative research method by taking cases using purposive sampling. The research method uses a qualitative approach as a research procedure that produces descriptive data using interviews, field observations, measurements, and drawings [10]

Research that uses qualitative methods is sometimes easier to carry out than research that uses a quantitative approach. When conducting qualitative research, the emphasis is more on how individuals interpret their own experiences rather than using pre-existing frameworks. The emphasis is on in-depth interviews that outline proper preparation and protocol design. The interview itself is discussed in detail, including several important topics to be aware of [11]

Research Methods Steps consist of: Literature study or looking for related journal references, Permission requests allow surveys and research data collection, Conducting field observations, Existing documentation, Office space plan depiction, interviews with informants, analyzing findings in the field with literature reviews, and journal references, finding research results (state of the art), furniture office multifunction recommendations.

In this research, a survey was conducted at CV Archi Design Studio which is located on Jalan Beringin I No.8, Sekayu, Semarang City. Office space plans from CV Archi Design Studio are used for design simulations using multifunctional furniture. This research focuses on the layout of office space and the furniture used to make the space more efficient as well as recommendations for multifunctional office furniture.

## 3. Results and Discussion

In this research, a survey was conducted at CV Design Studio which is located on Jalan Beringin I No.8, Sekayu, Semarang City. CV Design Studio operates in the field of architectural and interior design consulting services. Like office buildings in general, CV Design Studio consists of an office room, meeting room, leadership room, waiting room, and bathroom. As seen in Figure 5.

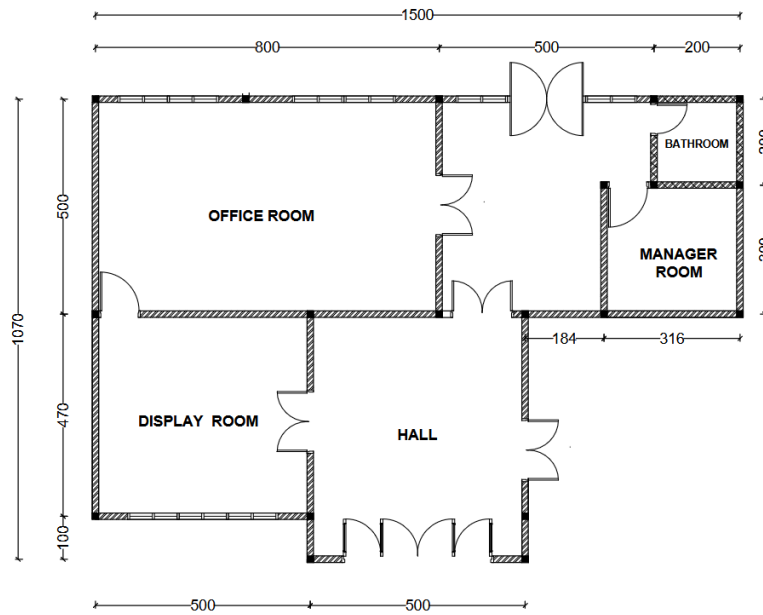


Figure 5. CV Archi Design Studio Office Plan

In the existing office space layout as in Figure 6, custom furniture designs have been implemented and multifunctional furniture has been used in employee work areas. There is lots of storage and cupboards for storing files. The placement of the furniture is not well arranged, there is a round table that is less functional and makes the room look full.

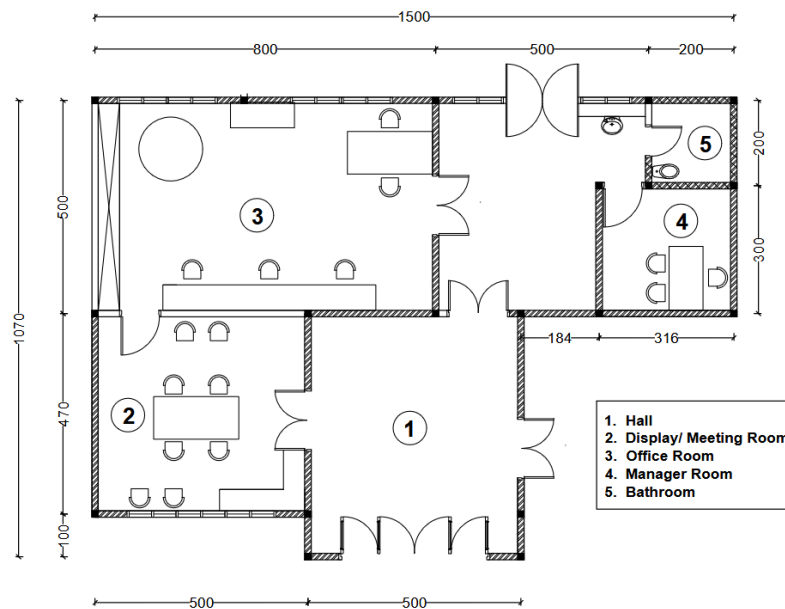


Figure 6. CV Archi Design Studio Office Room Layout Plan

In the employee work space, multifunctional furniture is used, where there is a work desk and underneath there is a small cupboard and drawers for storage as seen in Figure 7. There is a special place to place a PC. There is no communal area so there is a lack of

interaction between office employees. Eating is done at each employee's work table as seen in Figure 8.



**Figure 7.** Storage CV Archi Design Studio



**Figure 8.** CV Archi Design Studio Staff Workspace

The deputy leader's desk is too wide and less functional. There is a lack of storage space on the deputy leader's work desk so it seems less neat because the documents are placed on the desk. There is no special place to store documents close to the work area as seen in Figure 9.



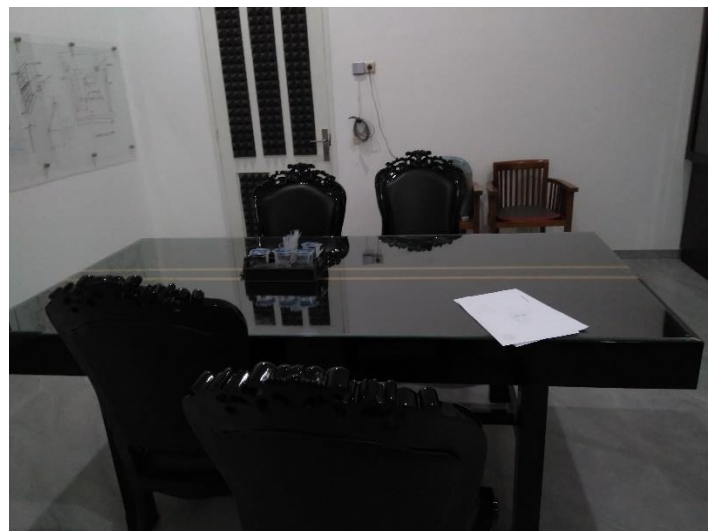
**Figure 9.** Workspace for the Deputy Leader of CV Archi Design Studio

The leadership room is located at the end of the room, in front of the staff room and next to the toilet. The layout of the room is less organized. Do not use multifunctional furniture. There is no special document storage area in the leadership room. This space is not specially designed so the appearance is very simple. The lighting is lacking so the room looks a bit dark. Leadership Room as seen in Figure 10.



**Figure 10.** CV Archi Design Studio Leadership Room

The meeting room and room for receiving guests are placed at the front. There is a table with an area of 2x1 meters. This meeting table can be used for 6 people. In the corner of the room, there is a display table. This meeting room is equipped with monitors and LCDs which are usually used for meetings. The meeting room which also functions as a living room is seen in Figure 11.



**Figure 11.** Meeting Room CV Archi Design Studio

According to the survey results at the CV Archi Design Studio workplace, there is still furniture that is less functional and has vast dimensions, which makes the office space feel more claustrophobic. Although they have been used, multipurpose furniture designs are still not at their best. The table is huge and has little storage space, and the leader's desk lacks sufficient storage space, making document storage messy.[12]

Based on the analysis results, CV Archi Design Studio office space layout recommendations can be made that can maximize the use of multifunctional furniture as in the office space layout plan Figure 12. The use of multifunctional furniture can further increase

space efficiency in limited interiors. This type of furniture that has many functions is most effective, especially in places with limited space [13].

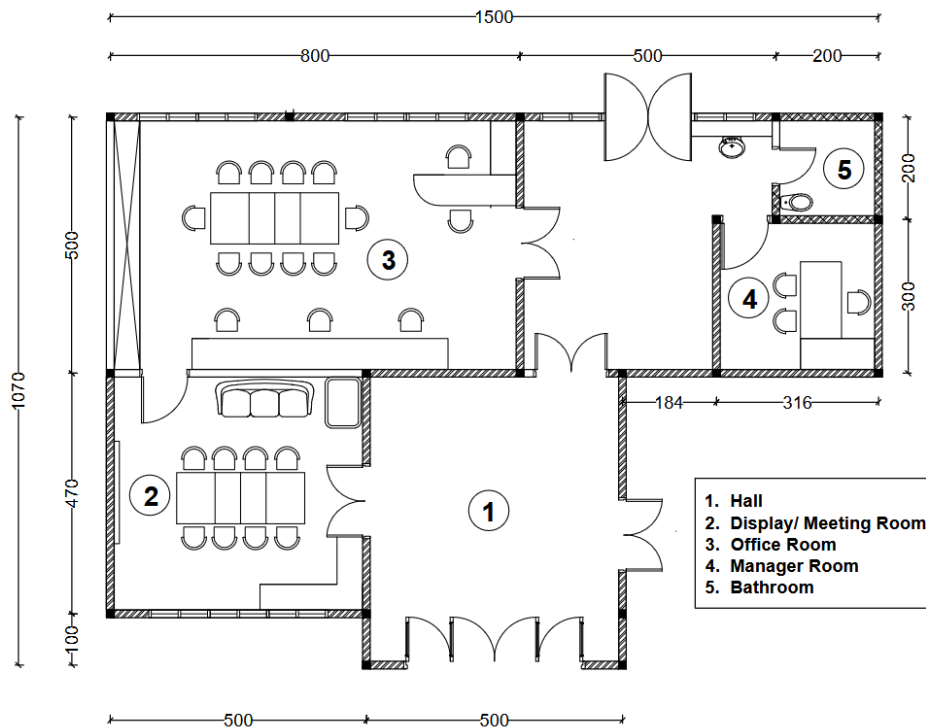


Figure 12. Recommended Room Layout CV Archi Design Studio Office

For work desks and meeting tables, it is recommended to use tables that can be extended, shortened, and rotated to maximize space. Multifunctional furniture uses a space-saving concept that takes into account various aspects such as function, effectiveness of room use, and ergonomics, thereby producing products that suit user needs and can solve existing problems [14].

On the desks and meeting tables, it is recommended to use tables that can be lengthened, shortened, and rotated so that you can maximize space. Multifunctional furniture uses the concept of space-saving which takes into account various aspects such as function, effectiveness of room use, and ergonomics to produce products that suit user needs and can solve existing problems [14].

Multifunctional office furniture that can be maximized is a work desk. The work desk can be used for writing, and working with a laptop or computer but can also be used for storing documents. There is a small cupboard so that documents can be arranged more neatly as seen in Figures 13 and 14.



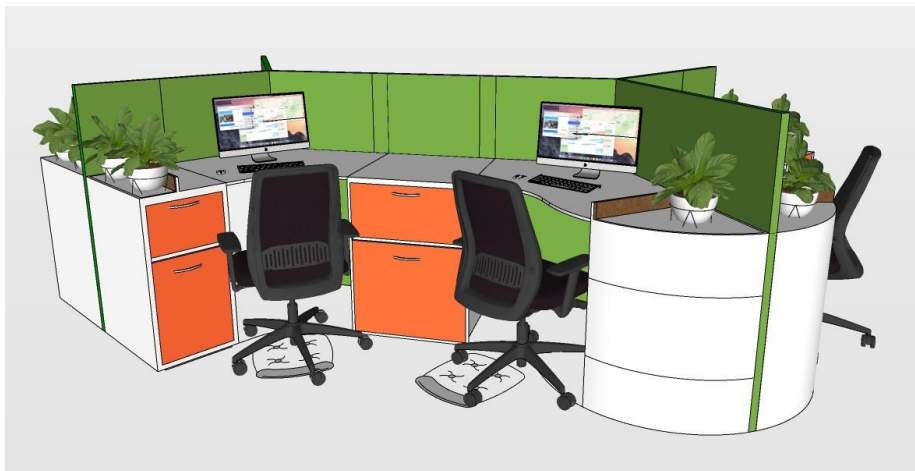


**Figure 13.** Recommendation 1 Multifunctional Work Desk



**Figure 14.** Recommendation 1 Multifunctional Work Desk

The work desk recommendation 1 is suitable for single-user desks in small spaces. For tables used by several users, a multifunctional table design as shown in Figure 15 is more suitable.[15]



**Figure 15.** Recommendation 2 Multifunction for Multi-user Work

#### 4. Conclusions

Based on the research results, it can be concluded that the CV Archi Design Studio office has implemented the use of multifunctional furniture in the staff office area where there is a work desk and below there is a small nightstand and a shelf for placing the computer CPU so that it does not stick directly to the ground. In the staff office, there are upper cabinets and glass cupboards as well as a console table for storing documents and pictures. Meanwhile, the leadership room and meeting room do not use multifunctional furniture. The CV Archi Design Studio layout is quite good in the staff office space but less so in the meeting room and leadership room. The results of this research recommend a layout design that maximizes the use of multifunctional office furniture. Furniture that can be multifunctional is a work desk, a work desk is not only used for work but also as a storage area. The leader's work desk is made wider in dimensions so that it can accommodate all the leader's work activities which

require more storage space than the staff desk. Leaders also often discuss and coordinate with the team, so they need a work desk that can also be used for small meetings.

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