Use of Space for Work at Home in the Indonesian Household Context

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ABSTRACT

This paper explores how the use of space for work at home is determined by taking into consideration the established roles and values in Indonesian households. Along with socioeconomic and technological developments, working at home is increasingly becoming a common thing to find in Indonesia. Furthermore, the COVID-19 pandemic and its subsequent policies has increased the implementation of *work-from-home* arrangements in Indonesia. Work activities must be carried out in accordance with the context of the household that has established its own conventions, roles, meanings, and values. However, taking the role and value factors of the household into consideration when exploring the reasons behind the spatial utilization for work at home still receives minimal attention. Using a qualitative research approach, this study aims to explore which aspects of roles and values within the household are taken into consideration in determining how the space available at home is used for work. This study also answers the types of spatial utilization formed as the result of the aforementioned roles and values. The consideration factors found are different for each type of household so that the resulting form of space use is also different. The findings from this study found that consideration of certain household aspects can also give rise to its own form of spatial use.

Keywords: Home as workplace, Indonesian households, household types, spatial utilization, work activities at home

1.   Introduction

In recent decades, there has been an increase in the use of home as a place for a variety of income-generating activities [1]. Therefore, there has been a shift in the meaning of home where the home is not only a domain for domestic life, but also provides a physical shelter where people can earn an income [1]. In Indonesia, the use of home as a place of work has also been found in the form of home-based enterprises (HBEs) in urban settlements [2]. As information and communication technology (ICTs) develops, the implementation of other work arrangements at home, such as telework and remote-work, began to be widely carried out even though the spread of the application of this arrangement was relatively slow [3].

The COVID-19 pandemic has also had a serious impact on all aspects of life, including in the social and economic order in Indonesia [4], especially in the aspect of work arrangements. At the beginning of 2020, the Government of Indonesia also implemented a policy to work, study and worship at home [5, 6, 7]. In 2021, the Government of Indonesia also implemented the New Normal Policy and the Adaptation of New Habits (AKB) movement, namely regulations where employees are still allowed to work in offices with provisions, such as limiting the number of workers in offices not exceeding 50% of the total number of workers, reducing the presence of workers who belong to the Covid-19 high risk groups, and implementing health protocols [6,7]. The COVID-19 pandemic, which has created new living and working conditions, has led to an increase in the adoption of telework [3]. During this period, the use of ICTs for work became even more intense due to the implementation of *work-from-home* arrangement [7, 8].

The rapid development of the *work-from-home* arrangements also forces us to consider how the working conditions will be in the future. According to the results of

Reimagine Work: Employee Survey [9], more than half of government and corporate workers reported that they would like to work from home at least three times a week by the time the pandemic is over. In addition, different types of households also have different *work-from-home* preferences. Workers with young children are most likely to prefer flexible work locations, with only 8% saying they want to work on-site completely, whereas childless workers are almost three times more likely to choose on-site work [9]. In addition, the World Trend Index by Microsoft [10, 11] found that 73% of employees globally and 83% of Indonesian employees want the flexible remote-work option to persist after the pandemic; with 65% of Asian employees found to have a preference to be able to work at home at least twice a week [10]. This shows that working from home has emerged as a growing trend in the post-pandemic era [12]. Therefore, there are various kinds of requirements that must be met to ensure that workers can carry out their duties smoothly with this work at home arrangement.

The condition of the space at home that is used as a workplace is also important to note so that work activities at home can be carried out properly. The condition of the home that needs to be taken into consideration not only covers the physical or spatial aspects in the house, but also the social aspects at home. The flexibility of space and time when working from home during a pandemic has changed lifestyles and work resulting in an assimilation of boundaries between the two [13]. Disruption of the boundaries of spatial and temporal patterns between work and home also raises the need for renegotiation of space and time [14]. Negotiation of space and time is also done socially [15] between household members in various forms and ways of making decisions according to the context of the roles and values that are established within the household [16].

Thus, the determination of the use of space at home for work activities also involves a decision-making process between household members. In this decision-making process, the negotiations and bargaining that are carried out are in accordance with the meanings, values, and roles held by each household member involved. Therefore, it can be said that the use of space to work at home is carried out in accordance with the context of meaning, values, and roles that exist within the household. Differences in social contexts within different types of households can shape different

provisions or conventions for using space at home for work.

Several studies have also explored the various forms of space used at home for work [17], the forms of adaptation that occur [18], and the experiences of workers when working at home [12, 19]. However, there is still a need to explore the forms of relationships, roles and values that are taken into consideration when working at home and the rules or conventions of the spatial utilization that are formed from these considerations. Therefore, this study aims to explore the forms of space use that occur for working at home by considering the household context in terms of values, meaning, and division of roles that are established within different types of households.

2. Literature Review

2.1. Home as a workplace

Implementation of work activities at home is still considered a topic of discussion that invites a lot of discussion. This is because work and home are often seen as opposing domains [20]. This view originates from social, economic and capitalist developments during the industrial revolution [20,21]. According to Davies and Frink [20], there are two forms of thinking in viewing the separation of the scope of work and home, namely the separation of spheres based on gender roles and the separation of spheres based on activity time groupings. Separation of work and home based on gender is part of the "*separate spheres*" paradigm [20]. This understanding separates the world into private domains and public domains, in which the private domain is associated with women and home, while the public domain is associated with men, work and politics [20].

Other forms of separation between work and home are based on the grouping of time carried out by each worker[20]. In this context, work and home are separate things when work tasks are done during certain working hours and homework is done outside working hours [20]. The ability to segment the time of day by setting aside time for working hours without being disturbed is considered one of the essentials for being an ideal worker, a person dedicated solely to the interests of the employer, and undeterred by personal distractions from family and other responsibilities [20]. Setting aside time just for work is difficult, especially for parents, without segregating work and home based on gender [20].

In the Indonesian context, the 'ideology of the *separate spheres'* meets the existing paradigms within the scope of the state, culture, and religion in Indonesia [22]. Understanding of the separation of public/private domains and the gap between productive and non-productive work taken from the context of Western industrialization has also been absorbed into Indonesia with Indonesia's integration into the global system of modern capitalism [22]. This strict division of the two spheres is less applicable in countries like Indonesia, where only 30-40% of male workers and 20-30% of female workers work in waged or salaried positions, while more than 50% of female workers and more than 40% of male workers work in the informal sector [22]. In addition, the division of the two does not take into account the changing boundaries between formal and informal types of work, such as how rural-urban migrants and the urban poor can move in and out of formal sector employment [22]. This division also does not take into account the large number of informal economic activities carried out at home, such as *home-based enterprises* in urban settlements, as a way to meet the needs of life in the city [2].

Furthermore, the development of the technology, information, and industrial sectors has also formed various kinds of new work arrangements in society, namely "*telecommuting*", "*telework*", "*remote work*", "*home-based work*", "*home as workplace*", "*flexible work*", "*distance work*", "*multilocational work*", "*mobile work*", and even "*crowd work*" [23]. In its definition there is a slight difference between the concept of "*telework*" and "*remote work*", which is related to the use of information-communication technology and the location of the workplace. The main difference between '*telework'* and 'remote *work*' is that a teleworker works remotely while using personal electronic devices [23]. During the COVID-19 Pandemic, the telework and remote-work work arrangements are so widely implemented so as to bring up a new popular term "*work-from-home.*"

In this study, the concept of work activities to be reviewed includes "*home-based telework*" and "*home-based remote work*" with the context of "*home as workplace*" [23]. *Home-based remote work* is when work activities are carried out at or from home without electronic devices or ICTs, meanwhile *home-based telework* is when work activities occur at or from home using electronic devices

or ICTs [23]. Next, the term "home as workplace" refers to any amount of in-house income-generating activities carried out by a household, whether stock goods or products for sale online, a home studio for artists, pet sitters who use their home as a kennel, traders investing in stocks, software designers, or other forms of casual, part-time, or freelance work from home [1]. In this study, the work activities in question refers to work activities that are included in the type of work "*home-based telework*" and "*home-based remote work*".

2.2. Roles and values in the household when working at home

Home is an organization of social space that shows the structure and function of the community [24]. Home is an active condition in space and time in the formation of identity, social relations, and collective meaning [24,25]. Cieraad [25] explains that the house is an important site in the organization of social space because it is the space where relations between families, gender, and class identities are negotiated, contested, and changed. Hapsariniaty, et al. [24] also argues that home is a domestic space that is close to human life and is influenced by culture. Domestic space has also become a term that is widely used to describe the private space owned by a house or household [22].

Clapham [16] states that households can be understood simply as a person or a group of people who live together in one house. Additionally, Balls [26] defines a household as a spatial category in which a person or a group is bound to or attached at a certain place [16]. Haviland [27] mentions that to make comparisons between cultures, anthropologists define a household as a domestic unit consisting of one or more people living in one place of residence. De Backer, et al. [28] refers to the household as a residential group whose members work together in several household activities related to production, consumption, reproduction, and socialization.

Clapham [16] differentiates family with household by emphasizing that the definition of a family is based on blood or emotional ties, while the definition of a household is based on the shared consumption of a housing. In the majority of human societies, most households consist of families, but there are other arrangements in the household besides consisting of families [27].

The dynamics of discourse that occur in the family concept affect the appearance and shape of the household [16]. Over time, current trends in family structure patterns have led to the development of various types of households [16, 27]. Although the basic/nuclear family type is still the highest amount of the household type [16], there has been an increase in other household types in various parts of the world [16, 27].

One-person household or single-person households is considered to be the household with the largest increase in number and is projected to take up a large portion of the total increase in the total number of households as a whole [29, 16]. *Single-person households* have various age ranges with the employment factor being one of the main factors in the pattern of geographic distribution of this type of household [30, 16]. For single-person households in the younger age range, living alone is seen as a positive option. People who choose this type of household emphasize the flexibility of household arrangements and freedom [16]. Despite living alone, it was found that these people maintain many friends and other long-term relationships [30, 16].

Furthermore, multigenerational households also have high numbers in Asian countries and have increased in other parts of the world, such as the United States [28]. The emphasis in Indonesian culture on the responsibility of children to respect and serve their parents is one of the factors as to why many forms of this household are found in Indonesia [31]. One way of showing respect and service to these parents is by caring for them when they reach old age so that today's children also stay to support their parents [31]. In Asia, families that still adhere to traditional values are considered to be more assertive in terms of seniority and hierarchical regulations that occur [40]. In addition, in multigenerational households there is potential *'values gap'* or differences in meaning systems or value systems held between generations as a result of social changes that occur over time. This can also lead to certain expectations from one generation to another [38, 39]. Negotiation efforts can also occur between generations in the form of the younger generation negotiating their freedom so they can have a more share in making decisions [38].

The household is a grouping in which houses are consumed and decisions about housing are made [16]. According to Clapham [16], The household is a social construction that has varied over time and is the subject of competing discourses on the meaning of appropriate provisions. One-person households only need to focus on the meanings and attitudes held by that person [16]. However, the majority of households consist of more than one person and in most cases more than one adult, who would be expected to be part of the decision-making process [16]. Households need to coordinate and accommodate the attitudes and behavior of their members so that a series of practices, rules, and norms or behavioral provisions will be formed from interactions between household members to overcome certain situations [16]. In every household that consists of more than one person, there will be a combination of shared and individual meanings and beliefs [16]. The balance between the two can differ between households [16]. In addition, expectations of gender differences are also one of the things that are taken into consideration in this regulation [16]. These household regulations can take various forms, including provisions regarding membership and rights of household membership; provisions regarding the allocation of tasks and roles in the household; provisions regarding the ownership of the right to use the facilities at home and when; and provisions regarding the allocation of household resources between different uses [32, 16].

The decision-making process in the household does not only consider the husband and wife of the main partner in the household, all other household members also participate in negotiations or bargains [29]. Therefore, the decision-making process can also be understood as something that is not uniform and can vary depending on the context and aspects of decision-making, the type of household, and the roles of the household members involved. It is necessary to pay attention to the roles of household members because the relationship between the roles of different household members will have different power relations [16]. In the context of working at home, the division of roles of household members and the context of the type of household can also be a factor in how work activities are carried out at home.

In the aspect of division of roles in the household, Indonesia has long recognized that women have roles, both in productive and reproductive aspects, or what was termed 'dual roles' during the New Order government to determine the role of women in society [22].

The implementation of the division of roles in the household was even more common during the implementation of the stay-at-home/lockdown policy on the COVID-19 pandemic. At this time, various studies have found that even though men in the household end up spending more time at home than outside the home to work [13, 14, 34], most of the roles and responsibilities for completing all forms of domestic tasks are still borne by women [33, 34]. This situation gives rise to role conflict that makes it difficult for career women to deal with personal conflicts, namely the role of a wife and a worker [35, 14]. According to Crosbie and Moose [35, 14], the cultural background of both sides of the couple also influences the interaction and ambiguity of their roles when working at home. This is because different ethnic groups have different practices of home responsibility [14]. In addition, the dual roles that must be carried out cause many interruptions from elements other than the work element and so multitasking is needed to be able to carry out the responsibilities in both roles [36].

2.3. Use of space for work in the household

A household is an organization defined by its placement in a certain physical location [37]. Household members walk through and around the premises during their daily activities [37]. The paths that are traversed, both individually and communally, intersect and branch out within the boundaries of spatial planning according to their occupancy [37]. This arrangement consists of, among other things, namely the physical boundaries between each other, regulations regarding physical boundaries, and the allocation of available space as certain areas for different functions and people [37]. These forms of arrangement are also widely applied when doing work at home to support the smooth running of work.

The use of the house as a place for economic activity can also encourage space adjustments at home as a form of spatial negotiation between daily life needs and work needs [2]. Several studies have also discussed how forms of arrangement, adaptation, and adjustment of space at home are carried out to accommodate work activities at home [2, 17, 18]. Marsoyo [18] identified several categories of adaptation strategies for working at home, namely *adaptation strategy by sharing*; *adaptation strategy by extending*, and *adaptation strategy by shifting*.

Forms of adaptation and adjustment in using space in the house also go through a decision-making process in the household by considering the roles and values in the household to determine what form of space adjustment can be implemented in the family. This research will explore the forms of adjustments in using space for work that occur at home on consideration of roles and values in the household and type of household.

3. Material and Methods

This study aims to answer the research question: how is the space at home used for work activities by taking into account the values and roles established in the household? To answer this question, qualitative research was carried out to explore how space in the dwelling is used for work and the considerations of the household context in deciding the use of space. This study has a sample population of middle-class household members in Indonesian urban areas.

The data collection process began with distributing online questionnaires containing questions related to personal data, type of household, and willingness to become research participants. The distribution of this questionnaire aims to find potential participants who are willing to become samples of further research data. At this stage, data collection of prospective participants is carried out by doing convenient sampling by distributing questionnaires to anyone. In addition, the questionnaire also contains brief information related to the research and a request for consent to conduct interviews at a later data collection stage and to use the data collected. This questionnaire contains questions about personal data that include age, marital status, occupation, income range, and household type. The classification of household types used in this study are single-person or one-person households, traditional households, and non-traditional households. The single-person or one-person households are households consisting of one individual whether they are single, unmarried, have been divorced, or have been widowed. The traditional households are households consisting of married couples, both those who have children and those who do not have children. The non-traditional households include all other variations of households that are not included in the previous two types, such as single parent households, co-living

households, unmarried couples, and multigenerational or intergenerational households.

The total number of questionnaire respondents reached 45 people who were eventually re-selected to become 17 participating households as research samples to take part in the next data collection stage, namely by conducting interviews online. The sample of 17 households consists of 5 single-person or one-person households, 5 traditional households and 7 non-traditional households. The selection takes into account the type of household needed, the variation in the sample data, and the consent of the participants.

After the potential participants were selected, a personal approach was made to the potential participants to provide further information and confirm their willingness to participate in the research. After the participants expressed their consent to participate, further information was provided regarding the online interview. The online interview discussed questions related to activities carried out on a daily basis which include housework, leisure, and work; distribution of household roles; preferences and requirements for doing work activities at home; relationship dynamics in the internal and external spheres of the households; contestation and negotiation in the internal and external spheres of the households; future ideals regarding work at home; and important events or moments when doing work at home.

During the online interview session the participatory floor plan mapping method [41] will also be done using devices from google slides to produce illustrations of spaces in a residence collaboratively. By doing participatory floor plan mapping, participants can give information about the flow of movement in carrying out activities in the place where they live and show certain impressions and meanings experienced in the space. The data that has been collected will be processed to become a transcript which will then enter the codification stage to finally go through categorization so that needs, preferences, relationships, and future ideals that occur when doing work activities at home can be identified.

4. Results and Discussions

4.1. Consideration of household roles and values on working at home

4.1.1. One-person Household

In one-person household types, several work activities are found, including *home-based telework*, such as carrying out work activities independently using electronic devices and conducting online discussions with colleagues; bringing work tasks and related equipment from the office to the home; and accommodating supplies of commercial items needed in working at home. The time schedule for carrying out work activities in this household also adjusts to the type of work activity carried out and the demands of work tasks.

Table 1: Household roles and work roles considered in deciding the spaces used for work activities at home in the Single-person/One-person Household

Considerations in space utilisation for work	Spaces at home	Single-person/One-person Household				
		Dedicated Workspace	Living Room & Guest Room	Main Bedroom/ Personal Room	Second Bedroom/ Other Bedrooms	Kitchen
Household Roles	Gender relations	-	-	-	-	-
	Age & generational relations	-	-	-	-	-
	Household responsibilities & tasks	-	-	-	-	-
	Extrahousehold relations	-	✓	✓	✓	✓
Work Roles	Spatial adequacy for work	-	✓	✓	✓	-
	Personal space preferences for work	-	✓	✓	✓	-

The places used to carry out work activities vary based on the spatial quality conditions that exist in the residence and the adequacy of these places to accommodate work activities (Table 1). Some of the spaces that are widely used are the living room, bedrooms, and spare bedroom. In addition, there is a space to place work elements such as storage for sale items.

The use of dedicated workspace was not found in many one-person household participants because the participants did not live in a place that provided its own separate work space, such as in a boarding room or apartment with limited space. Therefore, there are many cases where home activities and work activities must share space with each other in the available space. This is found in the use of bedrooms and living rooms as a place to work.

In a one-person household, there is only one household member who inhabits the residence. Therefore, the decision-making

process regarding work arrangements is completely decided by the sole resident. Workers in this household can also carry out their activities without considering the division of roles and values in the household from other household members who may not be in line with the values they personally hold.

In general, the allocation of rights to use space is fully held by workers in this household so there is little need for negotiations in the form of sharing space with other occupants when working. The occupants of the house also have full power over the decision of using the space in their residence for work. Generally, the form of space and time negotiation found in this household is in the form of a shift in activities carried out in the same room, one of which is the use of the bedroom for two different activities, namely work and rest, at different times.
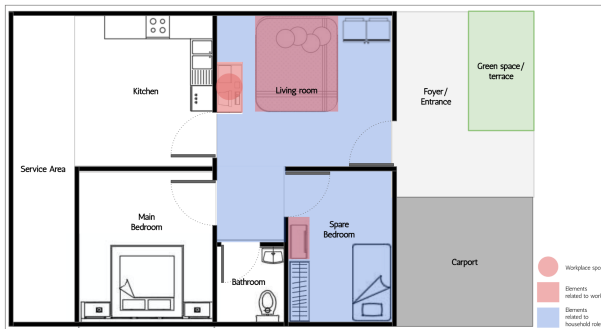

Figure 1: The floor plan of Participant SR's dwelling. Illustrates how work elements and household role elements overlap in the One-person Household.

Even though generally workers in this household do not need to be in touch with the roles and values determined by other occupants, workers in this household still have interactions with external household parties, such as household assistants and visiting friends, co-workers, and family [16]. An example of this case is found in Participant SR's household (Fig. 1).

In Participant SR's household, the living room, which also functions as the guest room, is found to accommodate work activities with visiting coworkers; and interaction activities when family or friends are visiting. Here there is negotiation in the use of space in the form of dividing space boundaries and tolerance in carrying out work activities so that they are carried out responsibly while still taking into account the embodiment of work ambience preferences to ensure that work

conduciveness is maintained. Negotiations are also carried out in the form of sharing aspects of interaction with interior objects, such as when several tables or chairs need to be shared with visitors to be able to support their needs for carrying out work activities.

4.1.2. Traditional Household

In traditional household types, several work activities are found, including *home-based telework*, such as carrying out work activities independently using electronic devices and conducting online discussions with colleagues; bringing work and related equipment from the office to the home; and home-based businesses, such as home-made food catering service and customized bouquet service. The time for work activities in this household also adjusts to the type of work activities carried out and the demands of work tasks.

In traditional households, there are various types of spaces used for work-related activities, including a dedicated workspace, living room, private bedroom, bedrooms of other household members, and kitchen. In contrast to one-person households, considerations for the use of space for work are not only based on the spatial preferences and the spatial adequacy that exist in the living space, but also needs to consider several aspects related to the role of the worker as a member of the household. Having more than one household member means that the decision-making process regarding work at home also needs to consider several parties (Table 2).

Table 2: Household roles and work roles considered in deciding the spaces used for work activities at home in the Traditional Household

Considerations in space utilisation for work	Spaces at home	Traditional Household				
		Dedicated Workspace	Living Room & Guest Room	Main Bedroom/ Personal Room	Second Bedroom/ Other Bedrooms	Kitchen
Household Roles	Gender relations	-	✓	-	-	-
	Age & generational relations	-	✓	✓	-	-
	Household responsibilities & tasks	-	✓	-	-	-
	Extrahousehold relations	-	✓	-	✓	-
Work Roles	Spatial adequacy for work	✓	✓	✓	✓	✓
	Spatial preferences for work	✓	✓	✓	✓	✓

Some workers in this household choose to use a private bedroom to have more privacy and to avoid household members and work distractions that they might bring with them. For cases where workers in this household do not share a bedroom with other household members, the worker also has full usage rights to that space. However, several cases were found where workers shared a bedroom with other household members. In this case, negotiations between household members regarding work activities were found in the form of dividing the portion of space between household members who use the private room.

In addition, several workers in this household were found using the bedrooms of other household members to work. This is found in situations where one of the children in the household has left the house for education or work reasons so that another child in the household can use the private room that is not being used by the owner. However, the use of the private room of other household members is only done at certain times, namely when the household member who owns the room is not using the room. In this context, a form of space negotiation is found between household members in the form of situations where they are allowed to share space. Other rooms in the house that are usually used for work activities include the kitchen and the living room.

The kitchen was found to be used as a work space for workers who have a home business in the form of selling home-made food-catering. The kitchen is used as a place where the process of making food products takes place. The use of the kitchen as a place for the production of goods for economic needs also creates space negotiations between the elements of the kitchen needs for the benefit of the house and the elements of the kitchen needs for work needs. In the kitchen, there is also a division of a special space portion which divides the storage of objects for sale and the storage of objects for household needs.

Furthermore, the living room is found to be used as a work space for workers who have certain responsibilities and roles in the household, such as the role of parent and child. The use of the family room as a workplace was found in several participants working at home, including DH and ML participants.

Participant DH lives with his wife, a 4-year-old daughter and an 8-month-old son. Participant DH and his wife are home-based teleworkers so many work activities involve the use of electronic devices. During working hours, Participant DH uses part of the living room as his workplace, while Participant DH's wife uses part of the private room as her workplace.

In general, the working hours of Participant DH and his wife have different times so that the free space in the living room can be used interchangeably. Participant DH and wife of Participant DH also considered their role as parents of their children when making arrangements for how work activities would be carried out at home.

Generally, the living room is used as a workplace so that they can carry out work activities while still supervising their children because Participant DH considers that this living room is the place where the majority of their children's activities are carried out, such as playing or watching TV. However, children's activities which can be a source of work disruption also raises the need to make different workplace arrangements in certain situations, such as Participant DH moving to work in the bedroom or DH's wife taking their children to the bedroom and comforting or advising the children so as not to disturb Participant DH when working:

"*If I want to give a presentation, I work in the bedroom because the room door can be closed so it's quieter than (at the usual) workplace because there is no partition from the TV. Especially if there are children who turn on the TV and sing or dance by themselves, the sound of excitement can enter. Sometimes when I have meetings with clients at home, I avoid being near the TV room (living room) because the noise source is there.*" (Participant DH, Online Interview, 2022).

From the case of Participant DH, it can be seen that there is a division of tasks in the household and the determination of conditions that apply to certain situations when working. In addition, there are negotiations between household members in using the family room and private space, where in certain situations Participant DH give in and move rooms to work so that children can continue to play, and in other situations, children are given rules not to play noisily.

In other cases, the living room is also used as an additional room to support work activities because of "spill-over" [15] elements of work from the main workplace to other spaces in the house. One example of this was found in Participant ML, a home business worker who lives with her parents and siblings.

Participant ML work as a bouquet seller on providing customized bouquets according to customer orders for special occasions, such as for formal events. Participant ML chose to use their private room as their main workplace. This is because her work activities involve craft activities, such as cutting paper or other bouquet materials, which can produce a lot of work waste that can disturb the tidiness of the space in the house. Participant ML who have a role as the child in their household must comply with the rules of their parents regarding the condition of the spaces in the house. As the holder of the highest position of power in the household, Participant ML's parents' rules that prohibit untidy living conditions in the house must be obeyed by the Participant ML.

Even though Participant ML encountered obstacles when working in their bedroom in the form of limited space, Participant ML were forced to carry out their work activities in the bedroom so that the waste produced from Participant ML's activities did not disturb Participant ML' s parents by causing an untidy atmosphere.

Participant ML's type of work that produces output in the form of physical products to be sold also makes it necessary to have a place to accommodate the products sold by Participant ML. Due to the limited space available in the Participant ML's bedroom, ML participants chose to use their living room as a temporary place to store work products (Fig. 2):

"*The workplace to make the bouquet is in the bedroom… so work is done next to the bed (on the floor). Next to the bed it's a bit cramped… so if for example a lot of bouquets are ordered it can't be placed in the room…I have to move the bucket to the living room or my sister's bedroom.*" (ML Participant, Online Interview, 2022)

Figure 2: The floor plan of Participant ML's dwelling. Illustrates how work elements and household role elements overlap in the Traditional Household.

Although Participant ML's parents complained about the condition of the living room being filled with Participant ML's work products, their parents finally tolerated the use of the living room, as a common room at home, to accommodate the products of their work. This action is also one of the embodiments of negotiating rules/conditions between family members in the use and arrangement of space under certain conditions. The existence of tolerance for these conditions also makes the scope of work-related zones owned by Participant ML expand due to the "spill-over" [15] elements: the private bedroom is used as the main place to work; while the living room is used as a place to support work-related needs, even though the right of use for Participant ML is a temporary and conditional matter.

4.1.3. Non-traditional Household

Similar to traditional households, considering the use of space for work is not only based on the spatial preference and the spatial quality conditions that exist in the living space, but also needs to consider several aspects related to the role of the worker as a member of the household. Having more than one household member means that the decision-making process regarding work at home also needs to consider several parties (Table 3).

Table 3: Household roles and work roles considered in deciding the spaces used for work activities at home in the Non-traditional Household

Spaces at home / Considerations in space utilisation for work	Non-traditional Household				
	Dedicated Workspace	Living Room & Guest Room	Main Bedroom/ Personal Room	Second Bedroom/ Other Bedrooms	Kitchen
Household Roles — Gender relations	-	✓	-	-	-
Age & generational relations	-	✓	✓	-	-
Household responsibilities & tasks	-	✓		-	-
Extrahousehold relations	✓	✓	-	✓	-
Work Roles — Spatial adequacy for work	✓	✓	✓	✓	-
Spatial preferences for work	✓	✓	✓	✓	✓

The private bedroom is still chosen as a place to work to have more privacy and avoid distractions. Similar to the traditional type of household, in this household several cases were found where the worker had a private bedroom for oneself; and cases where the worker needed to share a private bedroom with other household members due to limited space. Negotiations in the use of the bedroom for work are done in the form of dividing the portion of space between household members who use the private room.

This household also uses the bedrooms of other household members and spare room for work in situations where one of the children in the household has left the house for reasons of education or work so that another child in the household can use a private room that is not being used by the owner. Similar in the traditional household, this form of space use is done conditionally and a form of space negotiation is found between household members in the form of situations where they are allowed to share space.

The use of the rest of the room for work is also found in this household. Participant TWS who live with an older sister and her older sister's husband mainly choose to work in their private bedroom. In certain situations, Participant TWS need certain equipment to work which only exists in the rest of the room. In general, the use of these different spaces for work is not a problem for Participant TWS. However, this becomes a challenge when relatives or relatives come to visit the Participant TWS's house and stay in the remaining room. From this case we can find a

form of negotiating the use of space, in the form of changing activities carried out in a certain space at a certain time.

Furthermore, the use of the living room and guest room to carry out work activities is also found in this type of household. The living room is used as a work space for workers who have certain responsibilities and roles in the household, such as the role of parent and child. The use of the family room as a workplace was found in several participants working at home, including ZM participants and DM participants.

Participant ZM is a member of a multigenerational household consisting of 4 generations, namely the generation of Participant ZM and their siblings, the generation of Participant ZM's main parents, the generation of Participant ZM's grandparents, and the generation of Participant ZM's children. Participant ZM is a home-based teleworker so electronic devices are involved in their work activities.

Participant ZM used the living room as a place to work because they considered their roles at home as a child and a parent. Participant ZM chose an open space to be able to supervise their children while playing with their grandparents. Grandparents have a big role in this household in helping with childcare activities.

In Participant ZM's household, there is a household rule set by the older household members, the parents and grandparents, to not do work in private bedrooms [39]. The older household members interpret the private bedroom as a place to rest so that work activities are not allowed to enter that place [38]. In addition, there are rules not to use many electronic devices, such as gadgets or laptops, in the middle of the living room where socializing activities between household members are carried out. As the child, Participant ZM also had an obligation to comply with the rules, so they used the living room as a place to work. Participant ZM also chose parts of the living room adjacent to the prayer room (Fig. 3). Participant ZM did this, so that their work activities involving electronic devices do not enter the 'free of gadgets' zone in the living room; and so that they are constantly remembering religious values when working. Participant ZM also used partitions in the form of hanging curtains to better maintain work concentration.
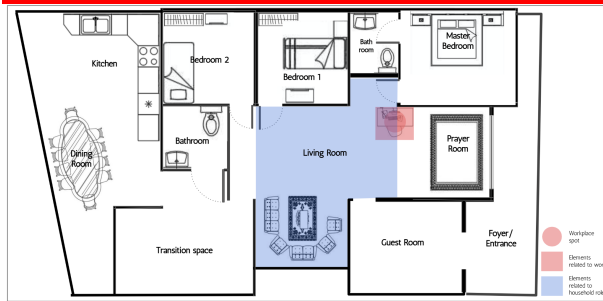
Figure 3: The floor plan of Participant ZM's dwelling. Illustrates how work elements and household role elements overlap in the Non-traditional Household.

In the case of Participant ZM, negotiations between household members and space negotiations were found in the form of using space for various activities. The norms in Indonesia to obey and respect parents is also a consideration in the decision-making process regarding the use of space for work.

Another form of negotiation in the use of the family room for work was also found in the case of Participant DM. Participant DM's role in their household as a wife and mother who still has responsibilities as a worker made Participant DM choose the living room as their main place of work at home. This is because the living room in their house is closer to the bedroom where Participant DM's newborn sleeps. As a mother with a role to care for her child, Participant DM must also keep an eye on their child's movements and must remain alert if anything happens to their child:

"*When my child is sleeping, I'm afraid he will fall or cry suddenly, so I choose an open room so when he cries, I can hear his voice.*" (Participant DM, Online Interview, 2022)

On the other hand, the use of the living room as a workplace poses a challenge for Participant DM to be able to carry out her roles and responsibilities as workers smoothly. In the living room, Participant DM encountered obstacles to work in the form of disturbance from other household activities, especially from the child who always asked to play. To keep her responsibilities as a worker carried out, Participant DM used their sister's room when their sister is not at home as a place of work for a while. This is what Participant DM usually do if they have to carry out synchronous work tasks, require a more conducive workplace, free from distractions, and/or require more focus than usual, such as when conducting work discussions in online meetings:

"*Sometimes if I need not to be disturbed, I move to my sister's bedroom because in the bedroom I can close the door so the child doesn't see me… I work in the bedroom when I have an online meeting or discussion… (in this situation) I prefer a closed space, so I go to my sibling's room.*" (Participant DM, Online Interview, 2022)

However, the use of another household member's private room is a situational matter only when the household member is not using their own room. Participant DM also had to move to another place in the house when the household member wanted to use their space again. From this case, negotiation efforts are found in Participant DM's sister in the form of shifting the use of space for different activities at different times.

4.2. Consideration of household roles and values on working at home

In one-person households, the spaces used for work activities are the living room, bedroom, and other bedrooms. In this household, the sole occupant of the household makes all decisions. However, there are still forms of negotiation with other parties in using space for work, namely with people outside the household, such as friends, co-workers, and family. This form of negotiation can occur when people are visiting homes, especially when visiting to work together. Therefore, negotiations as an effort to adjust living conditions for work can still occur.

The spatial strategies found in this household are sharing *of space* and shifting *of space* [18]. In the living room sharing *of space* [18] is found in the form of sharing the use of space with parties outside the household who participate in carrying out work activities in that space. Shifting *of space [18]* is also found in the form of the use of space for several different activities, namely work activities, leisure, and socializing, at different times.

In traditional households, the spaces used for work activities are a dedicated workspace, guest room or living room, bedrooms, and bedrooms of other household members or spare rooms, and the kitchen. In this household, decision-making regarding the use of space for work considers the needs, preferences, and roles of other household members. Various forms of negotiation with other household members were found in determining the use of space for work.

The spatial strategies found in this household are *sharing of space* and shifting *of space* [18]. In a dedicated workspace, *shifting*

of space [18] is found in the form of dividing the portion of time or situation to use the space for work. The division of this portion is carried out between each member of the household who needs a dedicated workspace. This is found in traditional households because there are several household members who may need to work at home. Therefore, as fellow household members, an allocation of time for each household member for the use of space is carried out through negotiations. *Sharing of space* [18] is also found in the form of using space for work activities while carrying out certain roles and responsibilities as household members, such as carrying out work activities while still carrying out the role of mother by supervising children who play in the same room.

Furthermore, in bedrooms and rooms of other household members or spare rooms, forms of adjustment for work were also found, namely sharing *of space* and shifting *of space* [18]. *Sharing of space is* found in the form of using the leftover space as a storage place for work products to be sold and sharing part of the space with other household members to be able to use the space to work at the same time. This was done when the bedroom was occupied by more than one member of the household, resulting in a division of the portion of space for each occupant of the room.

Apart from that, the kitchen was found to be used for work purposes in the form sharing *of space* [18]. This happens because of the need for certain types of work that require a kitchen in the process of making products at work, such as home-made food-catering. The kitchen is also used to store preparation tools for making food products. This shows that there is a space negotiation within the place to accommodate kitchen equipment, both to prepare work products and to prepare food at home.

In non-traditional households, the spaces used for work activities are dedicated workspace, guest room or living room, private bedroom, and bedrooms of other household members or other leftover rooms, and kitchen. These households have several similarities with traditional households, including considering other household members in determining the use of space to work at home and using more common spaces at home, such as the family room, to be able to do sharing of space strategy in the form of using the space to carry out work activities while carrying out roles in the household. In addition, this type of household has similarities with *one-person households* by considering other parties who are not members of the household in certain situations, namely when these parties visit the house. Therefore, various forms of negotiation are found, both with household members and parties outside the household, in determining the use of space for work, either permanently or only in certain situations.

In this household, strategies for using space for work can be found in the form of sharing of space and shifting of space. In the dedicated workspace, shifting of space is found in the form of dividing the portion of time or situation to use the space for other household members who wish to use the space for work. Besides that, shifting of space is also found in the form of changes in the use of space in certain situations, such as changing its use into a bedroom for guests when someone outside the household is staying over. This also creates certain situations where the dedicated workspace cannot be used for work. When this occurs, household members who work at home will use their private bedroom as a workplace.

In the living room, there is also a strategy for using space to work in the form of sharing of space. Sharing of space are carried out on consideration of several things, such as due to limited space to work at home; work activities carried out at the same time as other household members; the need to be able to carry out both work activities and household responsibilities simultaneously; and comply with the rules and values held in the household.

Overall, spatial strategies for doing work activities in the forms of *sharing of space* and shifting *of space* are found, whereas extending space by widening the space physically is not found (Table 4). However, it was found that there was a widening of the use of space for work in the aspect of its use only without being accompanied by physical changes. The existence of a 'widening of the domain' for work activities because of this unmet need for space also makes work activities dominate in several home spaces which were originally intended as a place to rest. The existence of this dominance also has the potential to produce inequality in the use of space.

Table 4: Various space utilization for doing work activities at home in different types of households.

Household type \ Spaces at home	Dedicated Workspace	Living Room & Guest Room	Main Bedroom/ Personal Room	Second Bedroom/ Other Bedrooms	Kitchen
Single-person/ One-person Household	-	**Shifting of space**: Using the space for both work & leisure activities in different times / **Sharing of space**: Sharing the use of space for work due to personal spatial preferences and extrahousehold relations	**Shifting of space**: Using the space for both work & leisure activities in different times / **Sharing of space**: Using spare space as storage for keeping products to be sold for work	**Sharing of space**: Using spare space as storage for keeping products to be sold for work	-
Traditional Household	**Shifting of space**: Dividing the space usage time in between household members who need to use the room for work / **Sharing of space**: Using the space for both work activities & other responsibilities related to household roles (working while watching the kids, etc)	**Sharing of space**: Sharing the use of space with other household members who needs to use the room for work at the same time / **Sharing of space**: Using the space for work activities due to lack of available space / **Sharing of space**: Using the space for both work activities & other responsibilities related to household roles (working while watching the kids, etc)	**Shifting of space**: Using the space for both work & leisure activities in different times / **Sharing of space**: Sharing the use of space with other household members who needs to use the room for work at the same time / **Sharing of space**: Using spare space as storage for keeping products to be sold for work	**Shifting of space**: Using the space for both work & leisure activities in different times / **Sharing of space**: Using the space for work activities due to lack of available space	**Sharing of space**: Using the space for work product preparation activities due to certain requirements of the work type / **Sharing of space**: Using spare space as storage for keeping products to be sold for work
Non-traditional Household	**Shifting of space**: Dividing the space usage time in between household members who need to use the room for work / **Shifting of space**: Dividing the space usage time with non-household members who needs to use the room for other activities in certain situations	**Sharing of space**: Sharing the use of space with non-household members who needs to use the room for other activities in certain situations / **Sharing of space**: Using the space for work activities due to lack of available space / **Sharing of space**: Using the space for work activities due to household roles, rules, and values / **Sharing of space**: Using the space for work activities due to certain requirements of the work type	**Sharing of space**: Using the space for work activities due to lack of available space / **Sharing of space**: Sharing the use of space with other household members who need to use the room for work at the same time / **Shifting of space**: Dividing the space usage time in between household members who need to use the room for work	**Sharing of space**: Using the space for work activities due to lack of available space / **Shifting of space**: Using the space for both work & leisure activities in different times / **Shifting of space**: Dividing the space usage time in between household members who need to use the room for work	-

On the other hand, the use of space at home for work can encounter several limitations, including in the form of house rules that must be followed, differences in preferences among household members, and physical limitations of the house itself. Therefore, it is also necessary to carry out spatial negotiations for household members who work at home, both negotiations in the social aspect, namely between household members, as well as negotiations in the aspects of space and time. A decision-making process that considers all household members is also needed to be able to accommodate all needs when working at home, both the need to fulfill roles and responsibilities at work, as well as the need to fulfill roles and responsibilities in the household.

5. Conclusion

This research found that the entrance of work activities into the spaces of home in different types of households could result in various spatial utilization strategies. This is because these work activities do not enter into 'empty space', but rather spaces that already have certain meanings and values from the households that occupy these spaces. Meanings and values that have been tied to certain spaces in the house can also determine how space is used to work. Therefore, the household context is something that needs to be considered in carrying out work activities in the spaces at home.

This research shows that the inclusion of work activities at home is something that needs to be adjusted to the household context. Adjusting the inclusion of work activities into the home by taking into account the roles and values applied in certain households could manifest the use of spaces in a certain form. The existence of different meanings, roles and values in each household can also lead to different forms of use of space for work. Each household, namely one-person/single-person households, traditional households and non-traditional households has a division of roles, meanings of values, and the dynamics of their respective relationships. Therefore, different types of households can produce different forms of space usage. Negotiation and contestation by taking into account the needs, preferences and roles of each household member can result in a different use of space from the initial determined use of the space. This change in use is a form of strategy that is carried out so that work activities at home can be carried out.

Changes that occur in the use of space to accommodate various work activities also raise awareness of the need for spaces with qualities that are suitable for work activities in the home. In addition, from looking at the reasons for the change in the use of this space, it can be seen that certain spatial requirements or spatial qualities need to be met to be able to accommodate all household members in work activities so that there is no need for other household members' spatial requirements and preferences to be sacrificed.

Knowledge related to space requirements or spatial quality can also be useful as future reference for designing living spaces that are more adaptive and universal in accommodating all identities and activities of household members in different types of households. The findings from this study can be

the start in the exploration on how the social aspects of the household can have implications for the implementation of the use of space for activities at home. In addition, this research can also be a first step to explore the quality of space needed for various types of work activities at home and the quality of space to accommodate each type of household.

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