

Built Environment and Users' Behavior in Co-sharing Spaces: A Comparative Study of Traditional and Modern Real Estate Development in the Bangkok Metropolitan Region

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Abstract

The goal of this comparative study is to provide real estate developers, urban planners, and architects with a deeper understanding of the development and management of the built environment and users' behaviour. This understanding can serve as an alternative investment strategy for the changing demands of the new target market. The main objectives of this research are 1) to study the behaviour of tenants and visitors in the environment of modern types of real estate development of the co-sharing spaces consisting of co-working space, serviced offices, and hostels and 2) to compare the modern types with traditional types of real estate consisting of home-based work/ café, traditional offices, and hotels. An in-depth structured interview of 19 samples was conducted as the primary approach to collecting information based on real estate in the Bangkok Metropolitan Region (BMR), Thailand.

The result of this study reveals that the built environments of modern real estate types differ significantly from traditional types, particularly in terms of design objectives (functional, aesthetic, and symbolic). This difference also influences users' physical determinism, which affects overt behaviour comprising personal space, territoriality, and privacy. However, this decline in overt behaviour does not imply a disadvantage in developing modern types of real estate projects. On the contrary, due to the users' underlying concerns, developers can adapt these development concepts to enhance project opportunities in particular dimensions of cost-saving, focus and convenience, and new experiences. Therefore, properly balancing design objectives (aesthetic, symbolic, and functional aspects) and overt behavior (personal space, territoriality, and privacy) is crucial to conveying the success of development purposes for the new generations.

Keywords: Built Environment, Behavior, Co-Sharing Space, Real Estate Development

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1. Introduction

Real estate is built and designed with various objectives and reasons, which is a component of real estate development that comes from architects' concepts reflecting upon the desire of real estate developers and users. Therefore, the most significant influence of real estate development is understanding the various demands in different periods (Brett & Schmitz, 2009; Rungruengpol, 2013) due to many factors such as technological advancement, the changing behaviours of new generations, or the smaller sizes of families that shape the attitude, decision, lifestyle, and behaviour of people. These factors have led to new real estate development trends such as co-working spaces, serviced offices, and hostels that have gained popularity during the last ten years (2013-2023); these developments are modern types of co-sharing space following the growing trend of the sharing economy. The modern types of development, with their unique design themes, decorations, atmosphere, size, privacy, and publicity, offer a distinct set of benefits to the users compared to the traditional types.

Real estate has the particular characteristics of a unique location and non-substitutability (Appraisal Institute, 2013; Jacobus, 2009; Wurtzebach & Miles, 1994), which support the concept of co-usage because of a lack of land and higher cost of land development (Chan, & Zhang, 2021; Hamilton-Baillie, 2008). Moreover, currently, collaboration between people is also more concerned with the aim of creating innovation. As a result, today's real estate development focuses on building co-space real estate with concerns over private and public space arrangements. The differences in each type of real estate reflect differences in usage patterns and behaviour in space (Guntermann & Norrbinn, 1987), especially the interpersonal relationships in the public space of the co-sharing space real estate, which are personal space, territoriality, and privacy. This finally leads to change in the modern types of real estate development. With the leapfrogging influence of this real estate development, it is interesting to see how the modern types of real estate development will respond to users' needs and, on the other hand, how users respond to these real estate developments. In conclusion, this study aims to understand the new patterns of user behaviour, such as increased collaboration or changes in privacy preferences, and the built environment of traditional types and modern types of real estate development in the sharing economy.

2. Research Objectives, Research Frames, and Definition of Terms

2.1 Research Objectives

2.1.1 To study users' behaviour in the real estate development environment in the sharing economy, which consists of serviced offices, co-working spaces, and hostels.

2.1.2 To compare users' behaviour in the environment of specific traditional and modern types of real estate development in the sharing economy, consisting of offices, home-based work, hotels and serviced offices, co-working spaces, and hostels. This comparative study aims to provide real estate developers with a comprehensive understanding of the development and management of the built environment and users' behaviour. This understanding will enable them to tailor their investments to the evolving demands of the new target market.

2.2 Research Frames

A serviced office, co-working space, and hostel users in Thailand. Samples Information was collected from those who have experienced the services or used all six types of traditional and modern real estate in the Bangkok Metropolitan Region (BMR). Judgmental sampling was used with at least five individuals from each real estate development, and a total of 19 participants were interviewed.

2.3 Definition of Terms

2.3.1 Real Estate Development

Real estate development is a business process encompassing activities ranging from renovating and re-entering existing buildings to purchasing raw land and selling or renting developed land or parcels to others (Adapted from Peca, 2009). Development is commonly divided into residential, commercial, and industrial real estate.

2.3.2 Co-Sharing Spaces

Co-sharing spaces are arrangements where users from different companies or places share a space. It allows cost savings and convenience through common infrastructures, such as equipment, utilities, receptionist and custodial services (Adapted from Chan & Zhang, 2021; Hamilton-Baillie, 2008).

2.3.3 Traditional Types of Real Estate Development

1) Office

An office is a space where the organization's members perform administrative work to support and achieve the organization's goals. It is also equipped with essential devices and facilities such as the internet, air conditioning, restrooms, etc. Services and other organization spaces are usually wholly separated and solely managed. The main objective of this development is to arrange space for organization members to work and coordinate with each other (Adapted from Stallworth & Kleiner, 1996 and Myerson & Ross, 2006).

2) Home Based Work

A house can be referred to as a building in which someone lives. In contrast, a home can refer to a building or any location that a person thinks of as the place where they live. The main objective of this development is to live by a small group of people or a family (Adapted from Bailey, 1990). Moreover, the concept of work at home or work from home could be defined as a home where worker carries out remunerative work in their surrounding grounds, which, balancing between home and work, is critical. (Adapted from Nordin, Mohd Baidzowi & Razak, 2016)

3) Hotel

A hotel is a place where its primary function is to provide lodging facilities to a traveller along with food, beverage, recreational facilities, and services. It is usually designed to protect guests' privacy by building a properly separated room. The main objective of this development is to provide overnight staying spaces and services for travellers and tourists (Adapted from Penner, Adams & Rutes, 2013 and Freund & Munsters, 2004).

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2.3.4 Modern Types of Real Estate Development

1) Serviced Office

A serviced office is a workplace designed and developed for businesses to rent in a rather long term of a minimum of 1 year. There is a complete allocation between each tenant space and sharing resources and services such as kitchen, toilet, conference room, reception area, copier, cleaners, security guards and receptionists. Compared to a traditional office space, the main objective of this development is to reduce fixed costs, reduce the burden of administrative work, and enhance the flexibility to change the area. The small enterprise is the primary customer of the serviced office business (Adapted from McAllister, 2001).

2) Co-Working Space

A co-working space is a workplace designed and developed for temporarily renting for work, with an open-plan layout concept to allocate space and collaborate with individuals who are or are not from the same organizations to use shared resources such as kitchen, yard, toilet, copier, and receptionist. However, this kind of design might trade-off with less privacy and concentration for each user. Compared to traditional ways of working in a house, the main objective of this development is to create a community for sharing knowledge and resources and build a friendly working atmosphere. Business startups and freelancers are significant customers as they do not need unnecessarily fixed costs at the beginning stages (Adapted from Weijs-Perrée et al., 2019).

3) Hostel

A hostel is an accommodation designed and developed as a place to stay and uses various shared resources such as a kitchen, toilet, and cafe. Usually, the spatial design of the hostel is an open-plan rest space where travellers conduct activities together, such as sleeping, chit-chatting, talking, and playing. On the other hand, this kind of design also trades off with less privacy for each guest. Compared to a traditional hostel, the main objective of this development is to build a friendly accommodation with a friendly atmosphere and to provide low-cost fees. The main customers are budgeted travellers, individual tourists, and new experience lovers (Adapted from McNeil, 2008 and Sandoval-Strausz, 2007).

3. Literature Reviews

3.1 Modern Types of Real Estate Development

In recent years, it can be seen that both residential and commercial real estate businesses have changed significantly; for instance, a single-house lifestyle has changed to a townhouse or a condominium (Bailey, 1990); factory entrepreneurs who previously lived in the same area now live away from the workplace; small business owners changed from using their dwellings as a workplace to renting a serviced office. These new real estate development patterns reflect the changing behaviour and environment (Archea, 2016). Interestingly, the change in user behaviour also impacts real estate development patterns. As a result, the real estate studied in this research includes co-working spaces, hostels, and serviced offices. During the last ten years, these additions to the Thai lifestyle established new proportions between public and private spaces. Additionally, it reduces private space while increasing the ratio of public space. For instance, if comparing a serviced office with a traditional office, it is found that there are more spaces, equipment, or human resources that must be mutually utilized, such as a kitchen, lounge, meeting room, toilets, maid services, securities, and receptionists (McAllister, 2001;

Myerson & Ross, 2006; Stallworth & Kleiner, 1996). Another example would be the comparison between co-working spaces and home-based work. Previously, business startups used their homes as workplaces. However, these spaces have been developed as co-working spaces, with more public utilization of all spaces and equipment (Weijs-Perrée et al., 2019). The sharing space is not divided between space for the individual or the organization as it used to be. Likewise, the hostel is a shared space with all facilities except one amenity (McNeil, 2008; Sandoval-Strausz, 2007), a somewhat private bed area.

From the above reviews, it can be initially concluded that cost savings, convenience, and new lifestyle/experience needs are the three key factors affecting the rise of modern types of real estate development. The above examples display the influence of user behaviour on different types of real estate. On the other hand, developing real estate will create the built environment that determines users' behaviour as well (Archea, 2016; Bechtel, 1997; Bell et al., 2005; Bitner, 1992; Fritz, 1996; Gifford, 2007; Horayangkura, Sedworakit, and Ginmalai, 2011; Ittelson et al., 1974; Khazanchi et al., 2018; McAndrew, 1993; Michon, Chebat and Turley, 2005; Turley & Milliman, 2000; Bitner, 1992). Moreover, the objectives of the relationship between design and human behaviour are aesthetic, symbolic, and functional (Horayangkura, Sedworakit, and Ginmalai, 2011; Bell et al., 2005). Therefore, the design and development of modern real estate will influence users' behaviour and usage in ways that are different from the old days.

3.2 Consideration Aspects of Design and Human Behavior

3.2.1 Functional Aspect

Functional value relates to work performance and product use. Most of these aspects focus on physical characteristics and utilization (Sheth et al., 1991) and relate to durability and price (Khazanchi et al., 2018; Kim, Gupta, and Koh, 2011). Therefore, real estate development should suit functional conditions like security, natural disaster protection, and convenience. Past developments usually focus on functional purposes, such as owning a residential project to live in or owning a commercial one for a business. Nevertheless, even though the functional aspect is essential for doing real estate business, new facilities conforming to modern real estate development would be a plus. Developing new facilities can provide suitable activities for the new generations, such as developing common areas in co-working spaces, serviced offices, or hostels. These new facilities also respond to the changing demands of the needs of cost saving, co-sharing spaces, and collaboration.

3.2.2 Aesthetic Aspect

Due to the high competition and the high demand in the real estate market, most real estate businesses aim to differentiate themselves through design with form creation, material combination, and colour tone selection, among other things, to satisfy the customer's needs. These ideas differ from those focused on mass production, complete facilities, and large spaces (Rungruengpol, 2013). Currently, most real estate projects have been developed under the concept of "function follows form", which prioritizes focus on form. For example, a vintage design concept of a project may not be suitable for today's environment; however, many projects are successful due to experience and environment creation, reflecting the importance of the aesthetic aspect (Kritsanaprakornkit, 2016; Sukpreecha, 2016; Thumrongrattanarit, 2016). Moreover, themed mall designs with unique artificially built attractions that borrow design elements from other countries or other areas are popular (Bosker, 2003; Rattanaprichavej, 2019). There is significant evidence of their unsuitability for the Thai environment,

terrain, and climate. However, they primarily focus on building aesthetics and experiences for visitors. In conclusion, aesthetics plays a vital role in real estate development.

3.2.2 Symbolic Aspect

Any real estate development needs strategic design to determine its market, which reflects its social perception (Kim, Gupta, and Koh, 2011; Zeithaml, 1998). It is a symbolic aspect in terms of psychic impact on the users. For instance, high-end shopping malls attract buyers with high purchasing power not only due to functional reasons but also because they reflect their social status (Kim, Gupta, and Koh, 2011; Prebenson & Xie, 2017; Sweeney & Soutar, 2001; Zeithaml, 1998) as well as their luxurious lifestyles. The airline lounge or reserved privileged parking lots are also good examples that reflect the user's status more than the functional aspect.

The symbolic aspect of the real estate business can be used as a tool for market segmentation through various approaches to create unique and different symbols for many groups, such as the luxurious group, the sustainable group, the startup group, and the technology group. As a result, it appears that Thai people are also influenced by the meaningful design of modern real estate development because most co-working spaces, serviced offices, and hostels in Thailand are always incorporated with themes and uniquenesses.

In conclusion, the design objectives may vary due to each real estate development's functional, aesthetic, and symbolic concerns, which affect user behaviours. Co-working spaces, serviced offices, and hostels also take different approaches to these aspects.

3.3 User Behaviors in Real Estate

Understanding user behavior is not just a crucial aspect, but the cornerstone of the real estate business. It can be categorized into covert behavior, which includes perception and cognition, and overt behavior, which includes territoriality, personal space, need for privacy, and crowding behavior (Bechtel, 1997; Bell et al., 2005; Gifford, 2007; Horayangkura, Sedworakit and Ginmalai, 2011; Ittelson et al., 1974; McAndrew, 1993). Covert behavior is the process of synthesizing information that people perceive and interpret their experiences and influences to express their feelings towards a particular area or environment, which is finally overt behavior. The environment in this study is design, construction, layout, and interior design; all have specific purposes of creation in terms of utility, aesthetics, society, and culture. This creative environment varies depending on each type of real estate due to different development purposes. People's behaviors change differently in different environments, or it can be said that the environment affects a tendency to change human behavior (Bell et al., 2005). This understanding of user behavior is not just essential, but the key for real estate developers to create spaces that meet their users' needs and preferences.

New projects' design and development goals are significantly different from the past, reflecting the changing nature of the real estate business and user behavior. This diversity in real estate is not a challenge, but an opportunity for different approaches to design and user behavior. This research aims to describe how overt behavior is influenced by the built environment in modern real estate, including co-working spaces, serviced offices, and hostels, through the three aspects of personal space, territoriality, and the need for privacy. This understanding of the impact of design and user behavior on real estate development is not just crucial, but empowering for professionals in the field to stay relevant and meet the evolving needs of their users.

3.3.1 Personal Space

Personal space is the place that prevents persons from other persons' invasion, and the distance to the safe space depends on the level of intimacy. There are four phases of the level: intimate distance, personal distance, social distance, and public distance affected by social, cultural, personal, gender, and age-related factors (Bell et al., 2005). While personal space cannot be seen, protection against intrusion can be done through nonverbal or symbolic actions; for example, formal military uniforms, facial expressions, or gestures distinguish between high-ranking bosses and subordinates. The design of the real estate space can demote or promote joint activities depending on the purpose of development (Haorayangkura, Sedworakit, and Ginmalai, 2011), which affects personal space. The development of modern real estate types implies less personal space and new dilemmas; for example, in a co-working space, some activities need specific space due to concentration or privacy; however, it is almost impossible to control personal space in wide-open spaces completely. Likewise, serviced offices demonstrate less personal space, impacting everyone using common areas (Sinha & Nayyar, 2000), such as a pantry, walkway, garden, and toilet. When comparing these developments to traditional developments, they build less public space, resulting in less personal space.

3.3.2 Territoriality

Territoriality is a concept similar to personal space; however, it focuses on area management to indicate either temporary or permanent territoriality using passive controls such as personal identity, symbolic signs, or prevention of intrusion by wall partitions or other kinds of construction (Kaya & Weber, 2003; Khazanchi et al., 2018; Stea, 2017; Yeganeh & Kamalizadeh, 2018). For example, in the past, real estate development would usually protect the territory by only building a thick wall or fence to prevent the intrusion of trespassers. Nevertheless, today, people are building territory more in terms of symbolic meaning, for example, by separating space with mirrors or low partitions instead of thick walls within the office space (Brunia & Hartjes-Gosselink, 2009) as well as in hostels with only light partitions as a curtain between beds. Therefore, these are examples of the change in human behaviour reflecting real estate development (Lyman & Scott, 2017). As asserted above, the cause of the behavioural change can be interpreted from three perspectives. One is that the Thai people are keener on symbolic rather than physical territory interpretation. According to the second perspective, apart from only protecting their space, they pay attention to aesthetics, image, or social status. Lastly, it is advantageous to lesser the territoriality, lower the construction cost, and save more space.

3.3.3 Need of Privacy

Privacy means the ability of an individual to separate themselves from a particular society by reducing or limiting communication, visual condition, smell, and listening senses (Alitajer & Nojourni, 2016; Moon et al., 2022; Pedersen, 1997). Public spaces can be designed and managed (Archea, 2016) to ensure privacy by allocating proper space, determining proper activities, and arranging the proper density of usage. In addition, having personal space and territoriality contributes to privacy levels. Developing real estate projects manages these concerns of promoting or demoting privacy. From the perspective of promoting privacy, it is a spatial change concerning activities that involve switching public to private space in certain real estate developments, such as private swimming pools, private lifts, private parking, or even private theatre, clearly showing the need for privacy.

In the case of real estate demoting privacy, hostel developments stand as examples of spaces that create a unique atmosphere or are built under budget limitations. It is interesting to notice that although a

room usually needs the utmost privacy level, in hostels, one confronts less privacy and less security (Alitajer & Nojourni, 2016; Moon et al., 2022). Nevertheless, some travellers still love spending the night in these lodgings to gain new experiences by observing new designs or meeting new people. In the old days, it was believed that working or studying should have particular privacy in order to gain higher concentration and only students or officers from the same organization should be allowed into a particular space, which eventually develops into a co-working space today without prevention of eyesight, noise or smell (Kupritz, 1998; Lee, 2010; Sundstrom, Burt and Kamp, 1980). In detail, the main objective of the co-working space development is to support collaborative activities and to share resources among users (Chan & Zhang, 2021; Hamilton-Baillie, 2008). These cases depict modern real estate developments and changes in user behaviour.

These users' behaviors illustrate the new demands that led to the modern real estate types. Therefore, Real estate developers must realize their positions and customer targets to respond to these changing lifestyles.

4. Research Methodology

This research was conducted using a semi-structured interview method, which was then tested for validity by two experts from real estate development companies. A pre-test questionnaire was administered to five samples similar to the sample group in this research. The research questionnaire used in the interview was composed of design objectives, concepts of overt behavior, and a comparison of traditional and modern real estate development, adapted from related literature reviews. Information was collected from individuals who have experienced the services or used all six types of traditional and modern real estate in the Bangkok Metropolitan Region (BMR), Thailand: offices, homes, hotels, serviced offices, co-working spaces, and hostels. A judgmental sampling method was used, with at least five individuals from each real estate development, and a total of 19 participants were interviewed. A cross-analysis of the interview results comparing the modern types and the traditional types of real estate was conducted by three researchers.

Table 1 Sample numbers of each of the traditional and modern real estate development

Samples	Traditional and Modern Real Estate Development		
	Office/ Serviced Office	Home-based work/ Co-Working Space	Hotel/Hostel
Numbers of Sample	5	7	7
Criteria	Worked in an office/ serviced office for more than six months	worked in a home/ co-working space for more than five times	stayed in a hotel/ hostel for more than five times

5. Research Result

In the last decade, the real estate business in Thailand has dramatically changed by emphasizing creativity in modern types of real estate, with a particular focus on co-sharing spaces. Therefore, as the environment has changed, the overt behaviour of the users has also been affected.

5.1 Overview of Co-sharing Space Usage

The sample consisted of 19 persons, nine males and ten females, holding various occupations, such as state enterprise employees, private employees, freelancers, engineers, dentists, and architects. The samples provided different reasons for using these co-sharing spaces.

Table 2 The conceptualization from the interview transcripts regarding the co-sharing spaces usage and design objectives

Co-sharing spaces	The Conceptualisation from the Interview Transcripts			
	Co-sharing space usage objectives	Design Objectives		
		Aesthetic Aspects	Symbolic Aspects	Functional Aspects
Serviced Office	<ul style="list-style-type: none"> - Image of the location - Credibility - Inability to pay high rental fees - Costs and size concerns - Professional space 	<ul style="list-style-type: none"> - Company's image - Not care about aesthetics 	<ul style="list-style-type: none"> - Locational brand - Image - Professional 	<ul style="list-style-type: none"> - Affordable price - Good location - Complete facilities - Services - Instant decoration - Convenience
Co-working Space	<ul style="list-style-type: none"> - Peaceful - Better atmospheres - Lonely at home - Insufficient facilities at the coffee shop and home 	<ul style="list-style-type: none"> - Better interior decoration and atmosphere - Work motivation - Enhance concentrate - Distraction 	<ul style="list-style-type: none"> - Confidentiality - Reliability - Image - Professional 	<ul style="list-style-type: none"> - Mass transit - Various facilities - Good location - Convenience
Hostel	<ul style="list-style-type: none"> - Common areas, knowledge, and experience sharing - Inexpensive - Affordability - Impressive - Enjoy/ Relax - Location 	<ul style="list-style-type: none"> - Vibrant atmosphere - Stylish characters - Unique design 	<ul style="list-style-type: none"> - Unique style - Cool and stylish 	<ul style="list-style-type: none"> - Impressive - Complete facilities - Better common area - Various functions - Good location

In Table 2, the samples stated that they mainly use serviced offices due to the proper size of the area, the city centre's location, and the company's image. The main reasons for using co-working spaces are to change the working atmosphere and enhance productivity and work motivation by being in an environment with beautiful decorations and vibrant movement, especially with other working users. Besides, the main reasons for staying in hostels are economical price, nice design, good location, and a chance of meeting new people.

About the aesthetic aspect of serviced offices, users claimed that the aesthetic was not the main factor in their choosing to work here, as they were more concerned with productivity and image. Co-working spaces have more aesthetic appeal than homes and cafes because these places are well-decorated with more open spaces to support teamwork motivation. For hostels, the samples thought that hostels have unique designs with more exciting concepts than standard hotels. Anyhow, some samples were more concerned with rent price than aesthetic sense.

Concerning the symbolic aspect of serviced offices, the samples described that the location of the serviced office creates symbolic meaning for their organization, such as being located in well-known areas or the central business district (CBD), thus making them look professional to the customers' perceptions. For Samples in co-working spaces agreed to continually check in via social media applications to be recognized as professional freelancers by their social networks. They could also meet with their customers at more reliable places than their homes. However, a few sample groups claimed that co-working spaces do not have any symbolic value; they came here only for functional purposes. Like co-working space users, hostel groups also presented their travel styles to their friends or acquaintances by checking- in through social media applications. However, few users believed that it did not have any symbolic value.

For the functional aspect, for serviced offices, the samples show that complete services and facilities with proper locations are essential for newly established start-up companies that lack capital. Using serviced office spaces does not bind them with a fixed cost, and they can concentrate on their work without the hassle of administrative concerns. Co-working space users focused on convenience and additional services such as Wi-Fi, free drinks, accessible location connected to mass transit, comfortable seating, enough power outlets, meeting rooms, and a common area. For hostels, users thought the hostel's location was essential for travellers deciding to stay. The common area can also be an exciting part compared to traditional hotels. Due to the limited private space in hostels, guests use common spaces such as the lobby, bars, or the library to perceive a new atmosphere. Nevertheless, using shared toilets is a negative aspect.

5.2 Personal Space in Co-Working Spaces, Serviced Offices, and Hostels

From Table 3, there is less private space for serviced offices, as they have more co-sharing spaces such as walkways, toilets, pantries, meeting rooms, etc. Nevertheless, this less private space does not allow people from different organizations to get to know each other better. As a result, a community among users from different organizations is not created. Although a co-working space is a kind of open-plan office, co-working space users agreed that there is sufficient space and enough personal distance due to the well-organized environment to avoid encroachment of personal space. Thus, some samples claimed there was no problem with personal space as they already expected to work in the provided space with others. The private space is more limited than usual workplaces, restricted to desk and chair areas. In addition, even though their spaces are getting closer, they rarely talk to others, which conflicts with the idea of building community via co-working spaces.

Even though hostels have limited private space, Thai people still do not interact with other guests that much. On the other hand, guests from America or Europe seem more open as they love sharing their experiences. Then, nationality and ethnicity seem to play a vital role in openness. There are also more limited private activities such as watching television, phoning, eating, or reading books than at regular hotels. All of these activities are to

be done in the provided spaces. However, some users do not feel intruded upon as they already expect that one of the purposes of hostel development is to build community.

Table 3 The conceptualization of overt behaviour from the interview transcripts regarding personal space, territoriality, and need of privacy

Co-sharing spaces	The conceptualisation of overt behaviour from the Interview Transcripts		
	Personal space	Territoriality	Need of Privacy
Serviced Office	<ul style="list-style-type: none"> - No privacy in the common area - No relationship and collaboration with other companies - Comfortable in only the company area 	<ul style="list-style-type: none"> - Opaque and transparent partitions - Sense of place - Proper territoriality between public and private areas 	<ul style="list-style-type: none"> - Private in only each office space - Non-private in the common area
Co-working Space	<ul style="list-style-type: none"> - Clear layout planning - Needed proper partitions - Limited private spaces 	<ul style="list-style-type: none"> - Clear zoning with the well design - No disturb, intimidate, and intrusive - Group work - Unclear zoning - Limitation of the area 	<ul style="list-style-type: none"> - Less work concentration - Pre-expected for group work - No privacy
Hostel	<ul style="list-style-type: none"> - A matter of different cultures - Fewer boundaries - Understanding and expectation - Trade-offs - Bed area for private spaces 	<ul style="list-style-type: none"> - Uncleared zone - Expectation - Limited private space - Needed low-density - Territoriality is not a priority 	<ul style="list-style-type: none"> - Privacy is not the top issue - No safety and security - Disturbance - Reduced privacy - Higher chance of knowing new people

From the above result, three main ideas can be concluded. First, although the personal space is limited, the users had no problems as they previously accepted the concept behind these developments. Second, the chance of knowing other users seems difficult due to limited private spaces, as Thai people are not familiar with the idea of socializing with other users, which contrasts with the concept of co-sharing spaces. Third, the space size does not signify the usage quality from users' points of view. The quality of usage seems to depend more on proper design.

5.3 Territoriality in Co-Working Spaces, Serviced Offices, and Hostels

From Table 3, it can be seen that there is an absolute difference in terms of personal space and territoriality between serviced offices and co-working spaces. There is a clear separation of space between private

and public areas because companies or organizations need certain areas to work individually and common spaces for shared activities. There is also an appropriately built thick wall or glass so that there is no sense of intrusion among serviced office users. For co-working spaces, users have the same opinions of territoriality, namely that private spaces, compared to homes, are limited to only the desk and chair areas. As it was an open-plan design, territoriality can be executed by putting the equipment or marking signs where they would like to command.

Hostels and co-working spaces would give users a higher chance of knowing new people. Therefore, most of the sample did not see the limited territory as a deterrent to their stay, which was acceptable to the size of the territory with only the bed. However, setting curtains around the bed can be a good idea to build more protection and privacy.

Although there were no walls or partitions to create private areas in co-working spaces and hostels or some areas in serviced offices, users had no problem with it as they pre-determined to admit the concept of these developments.

5.4 Need of Privacy in Co-Working Spaces, Serviced Offices, and Hostels

From Table 3, personal space and territoriality finally influence the users' privacy. Serviced offices were considered places with privacy and without disturbance, especially in their office area. However, some spaces were without privacy, such as the walkway, the lift area, the toilet, or the pantry. In particular, this privacy status depends on the market position of the co-sharing space developers. For example, if they were in a luxurious serviced office, they would be positioned in a good, professional image that would screen the qualified users from causing disturbance to each other.

For co-working spaces, the users identified some disturbances in the working area, especially noise concerns when people were working, discussing, or meeting. Some had to use earphones in order to avoid certain noises. It could also be seen that working in a home environment could be better controlled in this situation. For the hostel, there was an opinion that there was less privacy in the private space. For example, people could not avoid noise disturbance around the bed, in the toilet, or even in the lobby, which was uncontrollable. Another concern from this point was that it further affected the security of life and assets, requiring users to be constantly aware. These examples highlight the need for developers to consider the impact of territoriality and privacy on user experience and behavior in their designs.

As users adapt to the concepts of personal space and territoriality in co-sharing spaces, their feedback on privacy needs in certain areas is crucial. This feedback highlights the importance of developers addressing this aspect in their designs and makes users feel valued and integral to the real estate development process. By incorporating user feedback, developers can ensure that their designs meet the diverse needs of users, fostering a sense of inclusivity and satisfaction.

6. Research Discussion, Conclusion, and Recommendation

6.1 Research Discussion

The given results of the development of real estate projects illustrate the changing real estate development due to the changing behavior of the Thai people by comparing various perspectives on traditional and modern types of real estate. The changed design objectives can be observed in Table 4. The sample considered serviced offices to have the same (-) and higher (+) aesthetic levels as traditional ones. Concerning the

symbolic aspect, most of the sample suggests they feel more recognised and professional in serviced offices (+). For the functional aspect, most of the sample notes that the serviced office has more well-prepared functions than a traditional office (+). However, some think there is a disadvantage regarding privacy as they have to share facilities and services with others (-), which is the opposite of traditional offices with their own spaces and facilities. Comparing co-working spaces and home-based work, samples all agree that they create more aesthetic sense (+) than working at home or in a cafe as they have stylish decorations and an atmosphere that influences productivity. Regarding the symbolic aspect, the place seemed more credible than their own houses due to professional decoration (+) and other professionals from similar fields gathered in these spaces. For the functional aspect, the focus would be on location, services, and accessibility, and the co-working space is relatively fair and better than the traditional office (0, +).

For hostels, compared to traditional hotels, the sample has various opinions on aesthetic aspects. Some think that hostel decorations are more beautiful than hotels in some areas (+), while others think they are less beautiful (-) due to decoration. For the symbolic aspect, hostels give more symbolic value to unique travellers like backpackers or individual tourists by reflecting their styles (+). Meanwhile, security concerns decrease the symbolic value of hostels compared to traditional hotels (-). There is also a decrease in the functional aspect because of less availability of private space (-). In contrast, the advantages of co-sharing spaces such as the bar, library, and lobby create a friendly and open atmosphere (+).

In conclusion, the broad advantages of modern real estate development over traditional real estate development are all design aspects.

Table 4 Comparison of design objectives between modern and traditional real estate development

Modern Real Estate Development	Compared Traditional Real Estate Development	Design Objectives								
		Aesthetic Aspect			Symbolic Aspect			Functional Aspect		
Serviced Office	Office		0	+			+	-		+
Co-working Space	Home-based Work/ Café			+			+		0	+
Hostel	Hotel	-		+	-		+	-		+

Remark “-” = Modern real estate development has a lower level than traditional real estate development

“0” = Modern real estate development has the same level as traditional real estate development

“+” = Modern real estate development has a higher level than traditional real estate development

Overt behavior of co-sharing space usage tends to reduce significantly (Table 5). The serviced office sample unanimously agrees that every dimension of overt behaviour is either constant or decreasing (0, -), especially privacy, because everyone shares the facilities all over the place. Meanwhile, the minority claim that having a personal space and territoriality seems unaffected as if the place is well-organized. In addition, personal space and territoriality levels also decrease due to space and shared functionality limitations (-).

For co-working spaces, users have more public space and territoriality reduction (-) due to working/ staying with others. It reflects a decrease in personal space and privacy (-). Nevertheless, some users say privacy would be of the same level due to the efficient area design and management (0).

For hostels, the sample unanimously agreed on having less personal space (-), privacy (-) and limited territoriality (-). It can be viewed as promoting people meeting and communicating in a co-sharing space. However, it is interesting that some say there is more territoriality as they feel the common area is theirs (0). While privacy decreases (-), some users in the sample do not see a significant difference in this aspect, as hostels have the same common space as traditional hotels.

Table 5 Comparison of overt behaviours between modern and traditional real estate development

Modern Real Estate Development	Compared Traditional Real Estate Development	Overt Behaviors								
		Personal Space			Territoriality			Privacy		
Serviced Office	Office	-	0		-	0		-	0	
Co-working Space	Home-based Work/ Café	-			-			-	0	
Hostel	Hotel	-			-	0		-	0	

Remark “-” = Modern real estate development has a lower level than traditional real estate development

“0” = Modern real estate development has the same level as traditional real estate development

“+” = Modern real estate development has a higher level than traditional real estate development

6.2 Research Conclusion

The objectives of modern real estate design and overt behaviour have changed, especially regarding personal space, territoriality, and privacy. However, it is a reduction in overt behaviour as well as a functional aspect of design, while the aesthetic and symbolic aspects increase at some points. It can be stated that most users accept the idea of swapping overt behaviour with other benefits, such as exchanging privacy in order to get

a chance to meet new people in a co-working space, saving cost by exchanging privacy by staying in a hostel or exchanging privacy with image and recognition in a serviced office. These display that territoriality and privacy are not always significant factors in responding to the users' needs in terms of quantitative such as space size, entirely allocated space, or sufficient boundary. As a result, one of the most critical factors in responding to the new demands is understanding and managing the areas along with the development objectives, such as space allocation in the serviced office and optional private and public spaces in co-working spaces and hostels, as well as understanding the changing demands of the new-generation users.

From another perspective, cost-saving, work focus, convenience and new experience play a crucial role in the users' overt behaviours and the developers' design objectives. From the details of all modern types of real estate development, it can be concluded that the main reasons users accept to trade-off between space sizes and privacy are due to these factors (Bailey, 1990; McNeil, 2008; Myerson & Ross, 2006; Sandoval-Strausz, 2007; Stallworth & Kleiner, 1996; Weijs-Perrée et al., 2019). Apart from the above, it is noteworthy that some studies (Bunz, Henze & Tiller, 2006; Kim, 2009; Mand, 2013; Özgüner, 2011; Tufekcioglu, 2017; Watson et al., 2016) depict various perspectives toward design objectives and overt behaviors which conform to cultural differences in each area. In other words, some attitudes or behaviors studies might or might not be acceptable/preferable in certain areas.

6.3 Recommendation

The concept of overt behaviour is an essential tool in managing and making space a real place that conforms to the objectives of each real estate development and will satisfy users regardless of quantitative factors like in the past. New-generation users expect other benefits beyond quantitative factors, such as community, friends, creativity, convenience, cost saving, etc. In conclusion, properly balancing design objectives (aesthetic, symbolic, and functional aspects) and overt behavior (personal space, territoriality, and privacy) is an essential approach to conveying the success of the development purposes of the developers.

For practitioners' implications, developers who plan to develop or manage, whether traditional or modern, real estate with different advantages and disadvantages must first understand. Generally, the advantages of modern developments are affordable, aesthetic, symbolic, and functional as they are stylish, experiential base, convenient, and socially connected. The major disadvantage is less privacy and safety. Furthermore, the three investment recommendations are as follows: First, developers must understand their target customers' attitudes, preferences, and behaviours. Secondly, developers have to realise their design objectives and their positioning. Finally, developers must reconcile their customer targets against their positions, which might combine the advantages of both modern and traditional real estate. The research result will affect the decision-making of the developers to choose the most suitable types of real estate and design approaches to develop, renovate, change, or manage their existing or new development.

One limitation of this research study regards the unique characteristics of each area, such as cultures, attitudes, norms, etc. (Bunz, Henze & Tiller, 2006; Kim, 2009; Kim, Erdem, & Kim, 2024; Mand, 2013; Özgüner, 2011; Tufekcioglu, 2017; Watson et al., 2016); as a result, using this research result must delineate apply.

7. References

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