Design of Shared Office Spaces for the Digital Nomad Work Model

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Abstract: This paper discusses the design of shared office spaces tailored for the working model of digital nomads, aiming to provide a flexible, comfortable, and innovative work environment that fulfills their work and social needs. The COVID-19 pandemic has accelerated the trend of remote work, making digital nomads the representatives of the creative class in the digital economy era. However, many existing shared office spaces have failed to fully consider the needs of digital nomads. Taking the Shunde Lunjiao Shipyard as an example, this paper applies the concept of spatial sharing and proposes design principles grounded in flexibility, comfort, and digitalization. By flexibly adjusting the floor plan, enriching spatial functional areas, and incorporating personalized furniture and artistic decorations, this paper aims to create innovative office spaces. This design not only enhances work efficiency and social interaction but also incorporates intelligent technology and environmental sustainability principles, providing a new office model for digital nomads, enterprises, and individuals. It serves as an inspiration for urban development and the construction of an innovative ecosystem.

1. Introduction

The COVID-19 pandemic has rapidly accelerated trends towards remote work and global mobility, positioning digital nomads as iconic representatives of the creative class in the digital economy era. Their distinctive work-life integration, coupled with a growing presence in rural areas like Dali, Yunnan, and Anji, Zhejiang, has drawn significant attention. Furthermore, advancements in internet technology have enabled individuals to work from anywhere worldwide, posing fresh challenges to traditional office space designs. Coworking spaces, valued for their flexibility and resource-sharing capabilities, have become increasingly popular among digital nomads. However, despite their proliferation both domestically and internationally, most coworking spaces still cater primarily to traditional office needs, failing to adequately address the specific requirements of digital nomads for flexibility, convenience, and comfort. This paper aims to design coworking spaces that cater specifically to the needs of digital nomads, fostering personal growth and collaborative efforts. Not only does this research drive innovation in office space design, but it also enhances work efficiency and satisfaction, providing practical support for societal transformation. A review of existing literature reveals that while the impact of coworking spaces on work efficiency has been explored, systematic research addressing the unique needs of digital nomads remains

scarce. Using the Shunde Lunjiao Shipyard as a case study, this paper adopts an empirical approach to explore the design of office spaces that align with the lifestyle and needs of digital nomads.

2. An Overview of Coworking Spaces in the Context of Digital Nomad Work Patterns

2.1. Concept Elucidation

(1) Digital nomad work mode

The work mode of digital nomads primarily leverages the convenience of internet technology, freeing them from the constraints of traditional offices and enabling them to work from anywhere in the world. Their work domains are extensive, encompassing but not limited to programming, design, writing, marketing, and social media management. For instance, programmers can engage in various types of coding work, ranging from frontend to backend, including mobile app development to artificial intelligence. Designers can undertake a multitude of design tasks such as graphic design, UI/UX design, and branding. Writers can pursue creative writing, content marketing, technical writing, and more. On remote work platforms, digital nomads can create and showcase their resumes, presenting their professional skills and past experiences to potential employers. The platform's intelligent matching system can assist them in finding suitable jobs.

(2) Shared office space

Shared office is a new type of work mode that advocates teams and individuals from different fields to gather in one space to work together and exchange information. Occupants can rent offices or individual workstations according to their needs, and freely use the functional areas, office facilities, related resources, and services within the space [1]. In simple terms, shared office space is a knowledge-based community that brings together people from different industries through a sharing model for office work, communication, and collaboration. The emphasis of shared office space is not just on the sharing of physical space, but also on the sharing of all resources within the space. This allows occupants to take what they need like in a marketplace, reducing leasing costs while promoting the exchange and transmission of information, fostering cooperation among occupants, and enhancing resource utilization[2].

2.2. Analysis of the Current State of Shared Office Spaces

(1) Lack of transitional areas between functional zones

Shared office spaces should provide both open and private areas, and enrich the spatial hierarchy by establishing transitional zones. The lack of effective separation may lead to background noise, loss of privacy, distraction, health impacts, and reduced work efficiency. To address these issues, measures such as using soundproof materials, creating quiet zones and private offices, and setting up soundproof phone booths can be adopted to improve work efficiency and optimize the employee work experience.

(2) Insufficient Ancillary and Supporting Facilities

If the ancillary and supporting facilities in shared office spaces are inadequate, such as the lack of comfortable rest areas, sufficient storage space, and stable network services, it will directly affect the user experience and work efficiency. Over time, workers' needs for office spaces have expanded to include lifestyle aspects, including living spaces and green ecological areas. To accommodate these needs, shared office spaces should continuously improve based on user feedback to ensure they can better meet the expectations and demands of workers.

3. Strategies for Creating Shared Office Spaces in the Context of Digital Nomad Work Modes

3.1. Design Principles

(1) Openness Principle:

The openness principle is key to designing shared office spaces, manifested in several aspects. The spatial layout should be open and multifunctional, featuring rest areas and discussion zones to facilitate communication and collaboration among digital nomads. At the same time, shared facilities such as high-speed internet and printers should be provided to reduce costs and enhance efficiency. The space should also cultivate an inclusive and diverse cultural atmosphere and offer smooth information exchange channels, such as internal communication tools and social media platforms, to support experience sharing and problem-solving among members. Additionally, a flexible management system, such as offering self-selected working hours and locations, is essential to accommodate the personalized needs of digital nomads. The comprehensive application of these principles shapes a vibrant and creative office environment that promotes cooperation and exchange.

(2) Flexibility Principle:

Digital nomads differ significantly from ordinary tourists or permanent residents, exhibiting several notable characteristics: high geographical mobility, digital work, and work flexibility. Due to these significant differences in lifestyle compared to ordinary tourists or permanent residents, digital nomads are more vulnerable psychologically and emotionally due to the lack of a fixed social circle and sense of belonging[3]. Therefore, the office space should be capable of flexible adjustments according to team size and project demands. Additionally, the office space needs to provide 24-hour services and allow digital nomads to freely arrange their working hours based on personal work habits to accommodate their flexible work style. Service facilities such as movable tables and chairs, as well as customizable IT equipment, should also offer necessary adjustability to adapt to evolving needs. At the same time, the office space should organize diverse social activities and support flexible adjustments to meet different demands, thereby promoting communication and collaboration.

(3) Diversity:

Shared office space design is increasingly favored by the digital nomad community, and its design should adhere to the principle of diversity to cater to their work habits and lifestyles. The office space should offer a variety of work areas, such as open work zones, private offices, and quiet contemplation spaces, to meet different work demands while fostering creativity and efficiency. Furthermore, the space should integrate diversified facilities and services like high-speed internet, printing equipment, coffee bars, and leisure areas to satisfy recreational and social needs beyond work, thereby enhancing a sense of belonging and satisfaction. The design should also prioritize environmental comfort and sustainability, creating a healthy and comfortable work environment through the use of eco-friendly materials and energy-saving technologies. This design philosophy not only attracts digital nomads but also promotes communication, collaboration, and drives the development of the shared economy.

3.2. Design Methods

(1) Flexible Adjustment of Floor Layout

Given the differences in professions and scales among digital nomads and small-to-medium startups, it is crucial to flexibly adjust the floor layout to cater to their ever-changing needs. By precisely allocating space resources, we can not only enhance shared usage but also maximize space utilization, ensuring that every occupant receives just the right amount of support and assistance. A

flexible floor layout design can quickly respond to the usage demands of different groups, accommodating diversified work modes and making space utilization more efficient and convenient.

(2) Diversification of Spatial Functional Areas

The office space for digital nomads is not just a place for community living; it also needs to delve deeply into the service demand levels of digital nomads to satisfy their diverse needs [4]. To this end, we have set up various functional areas such as communication and entertainment zones, fitness areas, shared living apartments, and biophilic leisure areas. The communication and entertainment zones provide digital nomads with a platform for free exchange and sharing of ideas, fulfilling their social needs. The fitness areas help them release stress and maintain physical and mental balance during intense work periods. The shared living apartments are fully equipped, emphasizing environmental protection, and offer them a warm and comfortable resting environment to aid in recovery. The biophilic leisure areas allow them to get close to nature, enjoying the tranquility and peace it brings. Through the establishment of these functional areas, we not only create a comfortable working atmosphere for digital nomads but also alleviate their work pressure, thereby improving work efficiency and quality of life.

(3) Incorporation of Personalized Furniture and Artistic Décor

Modern furniture emphasizes flexibility and personalization, adapting to the diverse needs of users and enhancing life satisfaction. Through unique designs, these furniture pieces not only create an environment suitable for informal interactions but also attract more young professionals to reside. Artistic decorative elements are also indispensable in spatial design. By skillfully arranging guiding signs, users can easily locate various functional areas. The integration of creative graphic designs, vibrant color schemes, and unique geometric shapes injects boundless energy and vitality into the office environment. These designs not only fulfill functional requirements but also stimulate users' inspiration and creativity, thereby improving work efficiency and fostering tacit understanding in team collaboration.

4. Design Practice of Shared Office Space under the Digital Nomad Work Mode

4.1. Basic Project Overview Analysis

(1) Basic Project Overview:

This proposal selects its site at Shunde Shipyard of Guangzhou Shipyard International Co., Ltd. in Lunjiao Street, Shunde District, Foshan City, Guangdong Province. The location boasts superior geographical advantages and convenient transportation. The project is situated beside the Xiyong Sluice in Lunjiao Industrial Zone, with Beijiao Port to the north and Dieshi Dock and Yitong Dock to the east. The surrounding transportation facilities are well-developed, including buses, subways, and high-speed rail stations, facilitating easy personnel movement. Additionally, the project is surrounded by Guangzhu Highway and Shunde Expressway, providing great convenience for logistics and transportation. The area is equipped with comprehensive supporting facilities, covering dining, accommodation, and commercial services, capable of meeting various needs of the digital nomad community. It aims to create an ideal office and communication environment.

(2) Current Site Condition

Shunde Lunjiao Shipyard, rooted in the hometown of Foshan's pottery and martial arts, is located beside Xichong Sluice in Lunjiao Town, with its core businesses focusing on shipbuilding, metal components, manufacturing, and decoration. Since its establishment, Lunjiao Shipyard has accumulated rich experience in manufacturing and design, fostering a corporate culture driven by quality and innovation. The Shunde Shipyard covers a total area of over 80,000 square meters, with the living area accounting for more than 10,000 square meters. Despite its advantageous location

and convenient transportation, the building is currently in a state of abandonment, presenting three major issues: Firstly, there is a lack of necessary safety precautions, posing potential safety hazards. Due to long-term abandonment and disrepair, the building's structure is unstable and at risk of collapse, posing a significant threat to personnel safety. Comprehensive building restoration and reinforcement, as well as rigorous safety assessments and the construction of protective facilities, are required. Secondly, the regional division is unclear, and the existing layout cannot meet modern office needs. The functional areas need to be replanned to enhance space utilization efficiency and functionality. Lastly, the overall appearance lacks aesthetics and attractiveness. Due to prolonged neglect, the environmental sanitation is poor, necessitating environmental cleanup and beautification to improve the overall visual effect and comfort.

4.2. Design Concept

This design project aims to create a flexible environment that integrates office work and information exchange for the digital nomad community, balancing both work and life needs. In terms of regional functions, diversified functional areas are planned, including open office areas, private offices, meeting rooms, reception areas, and spacious tea break areas. Additionally, fitness areas, ecological green spaces, and shared living areas are established. Occupants can easily make reservations and sign contracts through an online platform, enabling them to move in with just their luggage, simplifying the cumbersome procedures of traditional leasing processes. This makes the move-in process as simple and quick as staying in a homestay, providing digital nomads with comprehensive support for both life and work.

Before designing shared office spaces tailored for the digital nomad work mode, it is essential to analyze the needs of the digital nomad community. Digital nomads and small to medium-sized startup teams require a place with high spatial openness where all spaces and resources can be shared to meet their development needs. Emphasizing the concept of sharing in the design of these office spaces provides a good platform for this new work mode, allowing teams or individuals from different industries to work within the same space. This enables them to have casual interactions while using shared areas such as tea rooms and lounges, which are beneficial for the development of this community. Incorporating the concept of shared collaboration into office spaces maximizes the utilization of the entire space and all resources, making the space more open and flexible. The freedom to use any functional area within the space enhances interpersonal communication and intellectual collisions, promoting the sharing of information and resources.

In terms of material usage, exposed concrete will be employed and later painted with suitable colors to retain the space's adaptability and potential for growth. Extensive use of glass and natural wood materials will also be incorporated into the space to create a transition and connection between indoor and outdoor areas. The abundant use of glass materials alleviates the heaviness imparted by the concrete, and the reflection of glass even allows the building to blend into the urban environment, rendering the entire structure more transparent and lightweight. Oak facades and bamboo flooring exude a warm ambiance. The materials are sturdy, and the details are exquisite.

4.3. Overall Project Planning and Design

(1) Analysis of the Master Plan

The proximity and distance between various functional areas directly determine the rhythm and cadence of the functional space layout design, while also better satisfying users' emotional needs. In most existing mature cases, the design of functional space layouts focuses more on achieving basic functionalities, without much attention to human scale and the effectiveness of regional settings [5]. This design, grounded in the concept of sharing, aims to create opportunities for mutual exchange

by dividing traditional enclosed office spaces into multiple open office spaces in the design of shared office spaces for the digital nomad community. The design encompasses relatively private shared office spaces, open office spaces, and green leisure centers, complemented by shared apartment areas that align with the theme. The master plan of this project is divided into six areas, functionally meeting the requirements of the digital nomad community: an office building, an underground parking garage, a surface parking area, shared apartments, an outdoor garden, and a farming experience zone. Each functional area is both independent and closely interconnected, forming a harmonious and unified whole. The building stands amidst lush landscapes, with two atriums excavated in the middle of the building structure to provide greenery, fresh air, and natural lighting. The building adheres to the climate, with its core being the preservation of a "Brutalist" structure. Offices with more stable temperatures are located on the cooler ground floor, while larger public spaces are situated on the upper levels. Reusable sunshades on the south side block the summer heat. The facility systems for both floors of the building are integrated into the "air cavity" within the raised floor, which maintains the exposure of the original concrete ceiling while maximizing the use of the free height on the lower level without the need for additional piping systems. Fresh air is naturally exhausted through the atriums, which serve as the "green lungs" of the building, as illustrated in Figure 1.
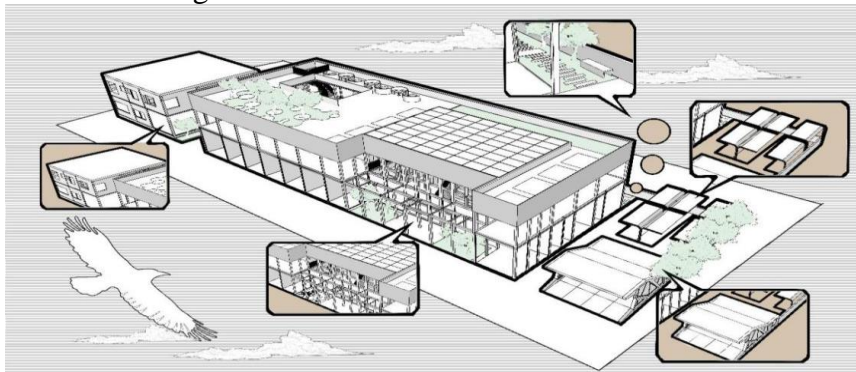

Figure 1: Aerial View

(2) Analysis of the Office Building Floor Plan

In the spatial layout of the office building, offices with more stable temperatures are arranged on the first floor to maintain a comfortable working environment, while the more spacious public spaces are located on the second floor, utilizing natural light and an open layout to create a vibrant atmosphere for communication. To cope with high summer temperatures, reusable sunshades are installed on the south side, effectively blocking heat. Additionally, the facility systems for both floors of the building are integrated into the "air cavity" within the raised floor. This design not only preserves the visual effect of the original concrete ceiling but also fully utilizes the space height on the first floor, eliminating the need for additional piping systems. The entrance hall of the building is shaped as a "social core" where everyone can easily meet, facilitating interpersonal communication. Shared office areas are arranged around the atrium, ensuring that all spaces within the building enjoy open views of the landscape. Meeting areas, work areas, and leisure areas are cleverly interspersed, allowing occupants to naturally encounter each other in the internal atrium. In terms of the building's layout, the first floor mainly consists of concentrated small spaces, while the second floor is equipped with more dynamic large spaces. This structural design not only optimizes space utilization efficiency but also enhances interactivity and functionality within the building, as depicted in Figure 2.
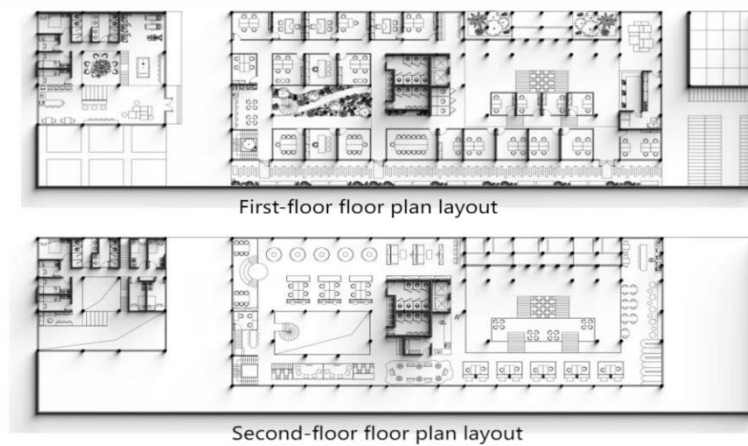
Figure 2: Office Layout Plan

(3) Regional Circulation Analysis

The work activities and mobility patterns of the occupants exhibit characteristics of openness, sharing, and fluidity. Most of the personnel entering the company are from startups with small scales. As their teams gradually expand, their demand for spatial functionality also diversifies. The high proportion of incoming and outgoing tenant businesses, coupled with significant employee turnover, necessitates a careful consideration of circulation design within the co-working space. In this design, a circular circulation pattern, akin to the concept of "migration" in nature, is employed to enhance the mobility of individuals within the area, aligning closely with the shared ethos of the theme. This migratory circulation utilizes a loop route to connect spaces of various sizes, ensuring smoother spatial flow and maximizing space utilization, as illustrated in Figure 3.
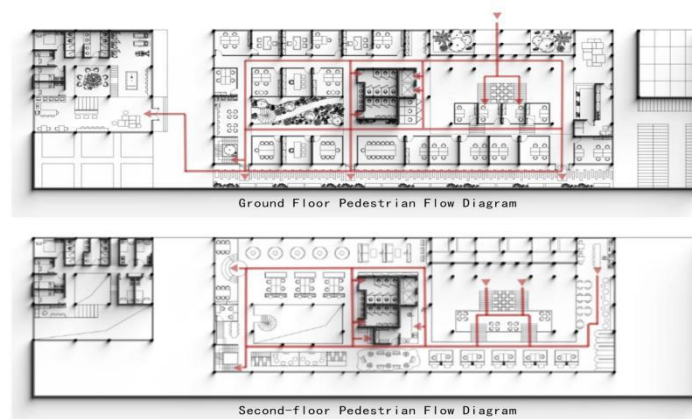

Figure 3: Human Circulation Map

(4) Analysis of the Building's Exterior Facade Design

The entire exterior facade of the building employs a combination of glass and concrete, exuding a modernist style amidst the lush greenery of the landscape, as depicted in Figure 4. This design integrates the building seamlessly with its surroundings. The atrium connects the indoor and outdoor spaces, featuring an interior garden that serves as a habitat for plants, creating a fresh, stress-free working environment. The landscape is exceptionally picturesque, forming a small ecosystem, as shown in Figure 5. One of the atriums, located in the middle of the building, serves as a new entrance. From this vantage point, the facade gradually fades into the background, the landscape folds inward, and trees grow into the building. The use of more glass than walls in the construction is intended to enhance spatial transparency, making the entire building appear lighter

and more airy.

Figure 4: The exterior facade of the building

Figure 5: Aerial View

4.4. Regional Design

(1) Shared Office Area

In the design of shared office spaces tailored for the digital nomad work mode, the organization of shared office spaces is of utmost importance. A reasonable layout and design can facilitate communication among occupants and provide diverse workplaces. In the design practice, Figure 6 delineates the open shared office area, while Figure 7 shows the private shared office area.

The design of these shared offices emphasizes comfort, relaxation, and proximity to nature. Therefore, green plants are visible throughout the office areas within the building, providing a healing effect for the working population.

Figure 6: Open-plan Office Space

Figure 7: Private Office Area

In the design, the conference rooms and the reception tea room are established on the first floor to distinguish them from the open areas on the second floor, thus rationalizing the zoning. The garden atrium area is designed to alleviate tense atmospheres, as illustrated in Figure 8.

Figure 8: Shared Tea Room Area

(2) Public Areas

Public areas serve as the carriers of new production modes, social patterns, and development trends. During planning and design, full consideration should be given to utilization rate and practicality before proceeding with a reasonable design. Meanwhile, the design of public areas should facilitate interaction and communication not only between office spaces and public areas, but also among different functional zones within the public areas. Spatial interaction is fundamentally rooted in the integration and collaboration of various functional domains, breaking down the barriers caused by regional closure, which can lead to information silos and communication difficulties. Therefore, this design incorporates numerous public areas to enhance communication among occupants, ensuring that the sharing extends beyond spatial resources to include information sharing, thereby benefiting the occupants. Furthermore, a coffee area is established within the space to provide a source of commercial economic revenue, as depicted in Figure 9.

Figure 9: Coffee Area

The introduction of green environments within offices has significantly boosted productivity. Notably, when the green coverage rate reaches 12%, it maximizes the enhancement of employee job

satisfaction. Comparative analyses indicate that offices designed with biophilic elements are particularly effective in improving employees' physiological health, leading to reductions in both diastolic and systolic blood pressure. Furthermore, the incorporation of greenery enhances short-term memory, alleviates negative emotions, and stimulates positive emotions, as illustrated in Figure 10.

Figure 10: Garden Area

5. Conclusion

This study has focused on designing shared office spaces tailored to the working patterns of digital nomads. By creating a multifunctional, flexible, and interactive work environment, it significantly enhances work efficiency and social interaction while supporting individual autonomy and creativity. Additionally, integrating smart technology and environmental sustainability principles into the design not only optimizes resource usage but also provides users with a healthy and comfortable workspace, possessing significant practical application value and profound social impact. This research not only offers innovative perspectives and practical guidance for the design of shared office spaces for digital nomads but also provides new ideas for urban development and the construction of innovative ecosystems, offering insights for future urban space design and management.

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