KYIV NATIONAL UNIVERSITY
CONSTRUCTION AND ARCHITECTURE
Architectural
(Faculty)
Design
(name of department)

EXPLANATORY NOTE

TO THE CERTIFICATE GRADUATION THESIS
TO OBTAIN A MASTER'S DEGREE

on the topic:

PRINCIPLES OF FORMING THE SUBJECT-SPATIAL ENVIRONMENT OF OFFICE PREMISES

Dong Huan
(surname, first name, and patronymic of the student in full)

Kyiv 2024

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Yuliia TRETIAK
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EXPLANATORY NOTE

TO THE CERTIFICATE GRADUATION THESIS
TO OBTAIN A MASTER'S DEGREE

PRINCIPLES OF FORMING THE SUBJECT-SPATIAL ENVIRONMENT OF OFFICE PREMISES

(name)

Performed by a student of the group ____DNm 23_____

_____Design_____

(specialty)

____Environmental and industrial design_____

(educational program)

_____Dong Huan_____

(last name, first name, and patronymic in full)

Head_____Yuliia TRETIAK

_____

(surname and initials)

_____

(academic title, scientific degree)

I confirm the identity

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_____
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(last name, first name, and patronymic of the student)

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(surname, first name and patronymic, academic degree, academic title)
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Ch. 1. Background the question and scientific analysis of the selected research area

Ch. 2. Analyzes the existing design objects based on the selected research field.

Ch. 3. Research Methods and Introduction of the process and results of Office Indoor Environment Research

Ch. 4. Interior Design of Modern Office In China. The building site is for example.

Ch. 5. Functions, structure, and composition of furniture (equipment) elements inside the office

5. Graphic material by sections:

Ch. 1. Analytical diagrams

Ch. 2. Analytical diagrams

Ch. 3. Analytical diagrams

Ch. 4. Drawings for the office interior design

Ch. 5. Drawings for the furniture element - reception desk

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Chapter 3, 4. Interior design.	
Chapter 5. The design of the furnishing element	
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Chapter 1.			
Chapter 2.			
Chapter 3.			
Chapter 4.			
Chapter 5			

6. Date of assignment 1.10.2024

Head of Department _____ Tretiak Yu.V.
signature

Supervisor Yuliia TRETIAK
signature

Student _____
signature Yuliia TRETIAK

Dong Huan

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Abstract

This article aims to explore the design guidelines and improvement strategies for modern office environments. By employing multidimensional analysis and integrating various research methods, it provides a series of optimized design plans. Initially, in the chapter titled "The Background of the Problem and Scientific Analysis of the Selected Research Field," the article traces the evolution of office environments, highlighting the primary issues currently faced, such as cramped spaces, inappropriate functional zoning, and poor air quality. It then delves into the scientific aspects of office environment design based on interdisciplinary theories including ergonomics, environmental psychology, and architecture, thereby clarifying the research objectives.

In Chapter Two, "Analysis of Existing Design Objects Based on the Selected Research Field," the article selects typical office space examples from both domestic and international contexts for detailed analysis. It examines these spaces from perspectives of design philosophy, spatial planning, and functional configuration, summarizes the design characteristics of successful cases, and offers suggestions for improving existing issues.

Chapter Three, "Introduction to Research Methods and Processes and Results of Office Interior Environment Studies," employs diverse research methods such as literature reviews, field investigations, and questionnaire surveys to systematically collect and analyze data on office environments. It identifies key factors influencing office space environments and ultimately derives design guidelines applicable to different categories of office spaces.

Chapter Four, "Indoor Design of Modern Offices—Using Chinese Architectural Sites as Examples," specifically analyzes the indoor design of an office site in China, providing a detailed interpretation from multiple angles including functional planning, spatial characteristics, and artistic composition techniques. The goal is to offer more targeted design references.

Chapter Five, "Functional, Structural, and Composition Solutions for Office Furniture (Equipment) Elements," focuses on the design of office furniture, exploring comprehensive aspects such as functional requirements, structural optimization, and material selection, with the aim of achieving efficient and comfortable working environments.

The final chapter, "Working Conclusions," summarizes the entire article, emphasizing the main theoretical and practical outcomes, and proposes a series of suggestions regarding interior design and furniture configuration in office spaces.

The keywords of this article are office environment, design principles, interdisciplinary theories, case studies, and interior design.

Literature review

Literature review of the Composition principles of the main space environment of Office Space

The main space environment design of an office not only affects the work efficiency and satisfaction of employees but also relates to the image and cultural con-

struction of enterprises. In recent years, with the change in work patterns and the increased focus on employee health, more and more attention has been paid to research in this field. Scholars at home and abroad have studied this extensively from different angles.

From an important perspective, the office space environment directly affects people's work experience. Good space design can promote teamwork, improve work efficiency, relieve pressure on employees, and create a positive working atmosphere. Therefore, it is very important to explore the composition principles of the office space environment to improve the working environment.

In terms of the importance of research, existing studies show that the design of office space should fully consider ergonomic principles to ensure that the work area meets the standards of human comfort while taking into account visual, auditory, and other sensory experiences. A flexible spatial layout can meet the needs of different working modes and help to stimulate the creativity of employees. These findings not only enrich the theory of architectural design but also guide practical applications.

The current situation of research at home and abroad shows that Western countries started earlier in office space environment design, and the relevant research results are relatively mature. For example, American scholars proposed the concept of "open office space", emphasizing reducing partitions to promote communication, while European scholars paid more attention to the application of environmentally friendly materials and the integration of sustainable design concepts. In contrast, although China started its research in this field later, it has developed rapidly in recent years, especially

since it has made some achievements in innovative design combining local cultural characteristics.

To sum up, the research on the principle of main space environment composition in office space not only has theoretical value but also has important guiding significance for practice. Future research can further explore how to integrate technology elements into the design of office space, and how to customize the space planning according to the characteristics of different industries, to better serve the development needs of modern enterprises.

Chapter I. Background the question and scientific analysis of the selected research area.

1.1. Precondition Analysis

As crucial venues for modern work activities, offices have undergone significant changes in their environmental planning. These changes reflect technological advancements and demonstrate an increasing emphasis on employee well-being and work efficiency. Looking back, early offices were typically characterized by compact layouts, unclear functional zoning, and inefficient space utilization, primarily constrained by the time's design concepts and technological conditions. With the advent of the Industrial Revolution and the Information Age, fundamental transformations began to emerge in the office environment.

In the early 20th century, Frederick Winslow Taylor's scientific management theory drove office work towards standardization and process orientation, yet this led to issues such as space congestion and irrational functional area division. Employees worked in confined spaces, lacking the necessary sense of privacy and comfort, which to some extent affected work efficiency and employee health. As office density increased, air quality also became a non-negligible issue. Poor ventilation and air pollution exacerbated employee fatigue and health problems such as headaches, eye strain, and respiratory illnesses.



Fig. 1. 1. Frederick Winslow Taylor

Entering the 21st century, with the rise of human-centered design and sustainable development concepts, office environment design began to focus on employees' physical and mental health and comfort [1]. Open office spaces became the mainstream trend, intended to promote team collaboration and communication, yet they also faced challenges such as noise interference and privacy protection. To address these issues, designers introduced flexible partition systems, sound-absorbing materials, and privacy protection facilities to achieve a balance between openness and privacy needs.

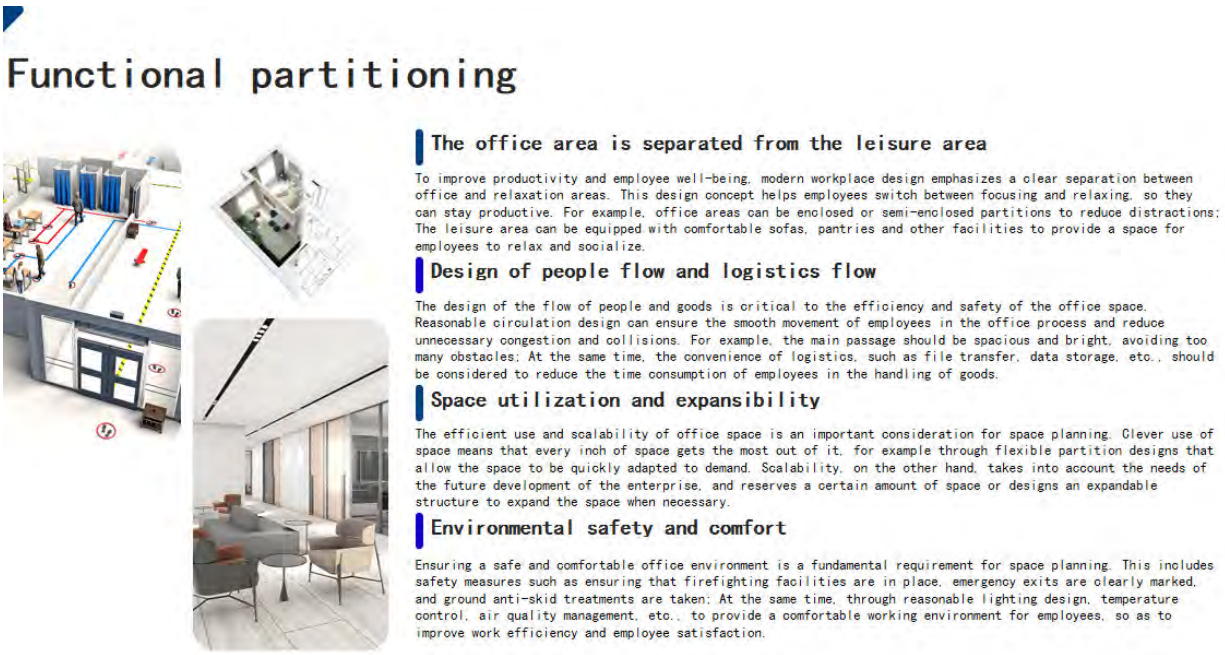


Fig. 1. 2. Functional partitioning

Currently, the main issues facing the office environment still include space congestion, irrational functional zoning, and poor air quality. Especially in some large cities, due to high land costs and limited office space, employees have narrow work areas and lack sufficient rest zones. With the widespread use of electronic devices, electromagnetic radiation, and blue light pollution have also become new concerns.

To solve these problems, designers and architects have begun exploring new design concepts and materials. For example, by introducing smart office systems, they achieve efficient space utilization and flexible adjustments; use eco-friendly materials to improve indoor air quality; and incorporate green plants and natural elements to create a more comfortable and pleasant work environment [3]. Companies have also started to focus on employee health and job satisfaction, enhancing work efficiency and creativity by optimizing the office environment.

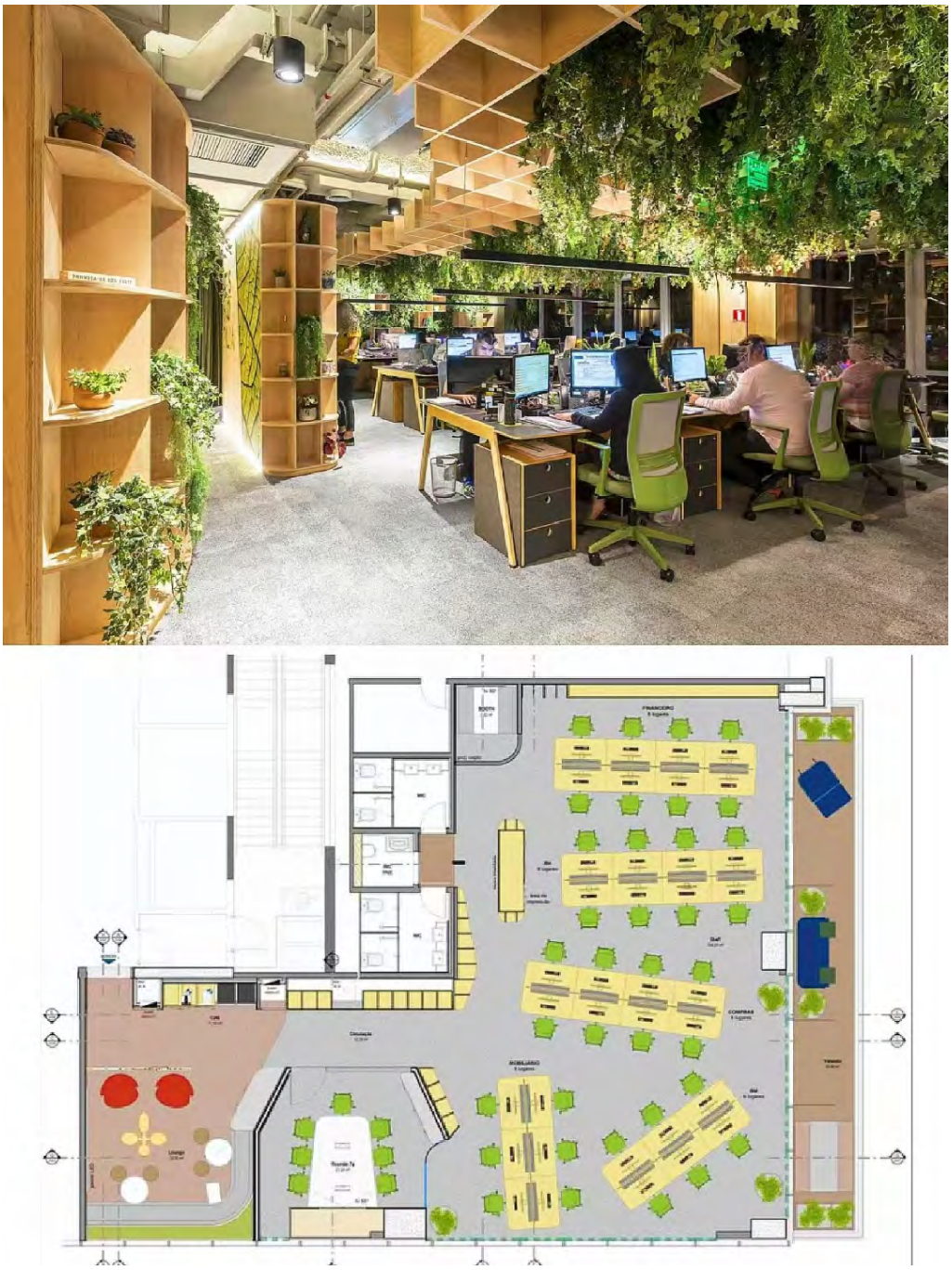


Fig. 1. 3. Create a more comfortable and pleasant working environment

The evolution of the office environment is a continuous process of development and improvement. From early compact layouts to modern open office spaces, and towards even more intelligent and human-centered designs in the future, each step aims to enhance employee work efficiency and physical and mental health. However, as

time progresses, new problems and challenges constantly emerge, requiring designers and companies to work together, continuously explore, and innovate to shape a more ideal office environment.

1.2. Selection of Research Direction

The planning of the office environment is not only related to aesthetics but also involves employee health, work efficiency, and satisfaction, making its scientific nature significant. To deeply understand the essence of office environment design, this study analyzes it based on multidisciplinary theories such as ergonomics, environmental psychology, and architecture.

Ergonomics occupies a crucial position in office environment design. It focuses on how to align the design of the office environment with the natural form and movement habits of the human body to reduce the physical burden on employees and enhance work efficiency. For example, according to ergonomics principles, the height, tilt angle, and material of office desks and chairs need to be carefully planned to ensure that employees can maintain a comfortable sitting position even during extended work hours, thereby reducing occupational diseases caused by poor posture. A survey of office employees indicates that well-designed office furniture can reduce discomfort caused by prolonged sitting by more than 30%.

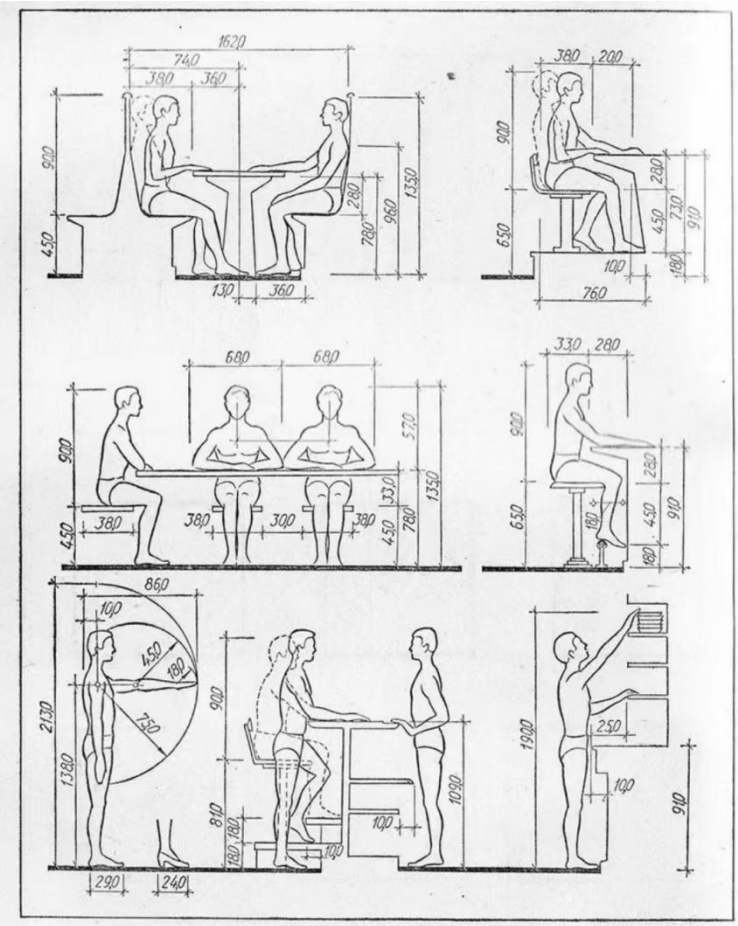


Рис. V.3. Габариты человека.

Fig. 1. 4. Ergonomics

Environmental psychology focuses on exploring the impact of the environment on human psychology and behavior. In office environment design, environmental psychology emphasizes creating an atmosphere that can stimulate employee creativity while providing a sense of security [4]. For instance, through reasonable color schemes, adequate natural lighting, and appropriate temperature and humidity control, employees' emotional states and work enthusiasm can be effectively enhanced. Studies have shown that when the color schemes in the office environment match employees' psychological preferences, their work efficiency can increase by 15% to 20%.



Fig. 1. 5, Aesthetic concept

The contribution of architecture in office environment design is mainly reflected in the spatial layout and the selection of building materials. A reasonable spatial layout can not only keep the office area organized but also improve employee communication efficiency and team collaboration abilities. Choosing environmentally friendly and energy-saving building materials, such as paints with low volatile organic compounds (VOCs) and boards with low formaldehyde emissions, can not only safeguard employee health but also reduce energy consumption and environmental pollution. With the increasing popularity of the green building concept, more and more office environment designs are beginning to focus on sustainability and environmental protection.

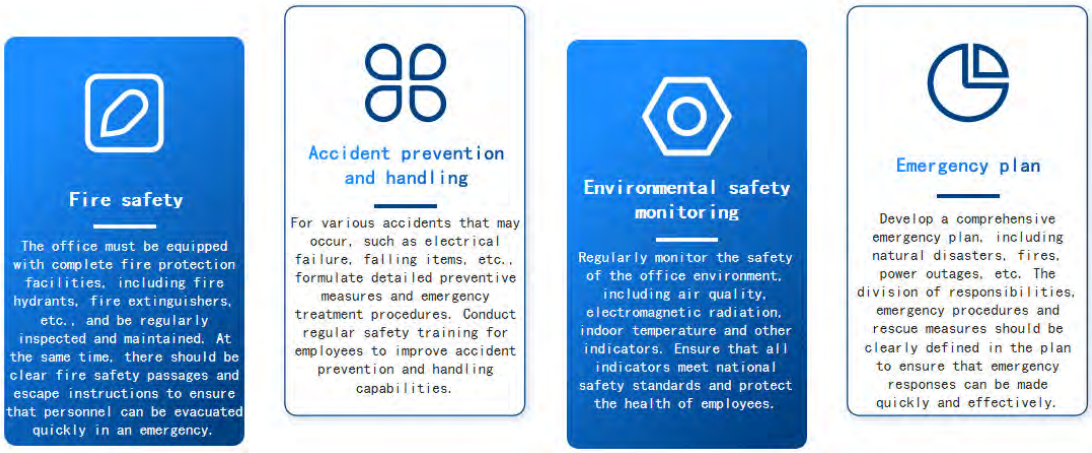


Fig. 1. 6. Safety protection

In terms of refining research objectives, this study aims to extract universally applicable design guidelines for the office environment through interdisciplinary scientific research. These guidelines are not only suitable for different types of office spaces, such as traditional offices, coworking spaces, and remote workplaces but also provide theoretical guidance and practical references for future office environment design. By comprehensively applying the theories and methods of ergonomics, environmental psychology, and architecture, this paper hopes to create a healthier, more efficient, and more comfortable office environment for employees.

1.3. Conclusion.

After an in-depth exploration of the principles underlying the spatial environment composition of office spaces, several key conclusions have been drawn in the first chapter.

From a historical perspective, the office environment has undergone significant transformations, evolving from traditional enclosed spaces to modern open-plan layouts and then to flexible and diversified environments. This change reflects not only the impact of technological advancements and work innovations on spatial demands but also the growing expectations of employees for comfort, health, and work efficiency. Despite significant improvements in current office environment design, numerous challenges remain, such as space congestion, inefficient functional zoning, and poor air quality affecting employee health. These issues urgently require us to re-examine and optimize the design principles of office spaces.



Fig. 1. 7. Artistic office space



Fig. 1. 8. Artistic office space

In terms of scientific analysis, this paper conducts an in-depth exploration of the scientific aspects of office environment design based on multidisciplinary theories such

as ergonomics, environmental psychology, and architecture. The research shows that well-designed office environments should fully consider the physiological and psychological needs of employees, creating an efficient and comfortable work environment through reasonable spatial layout, color schemes, lighting design, and other means. The study also emphasizes the significance of obtaining universal design principles through scientific research to guide practical design work. These principles include, but are not limited to, spatial flexibility, functional diversity, environmental sustainability, and cultural integration.

In refining the research objectives, this paper further clarifies the core task of the research, which is to extract universally applicable design principles by analyzing the advantages and disadvantages of existing office environments. These principles aim to guide designers in balancing efficiency, comfort, health, and other factors when planning office spaces, creating ideal environments that better meet modern office needs.

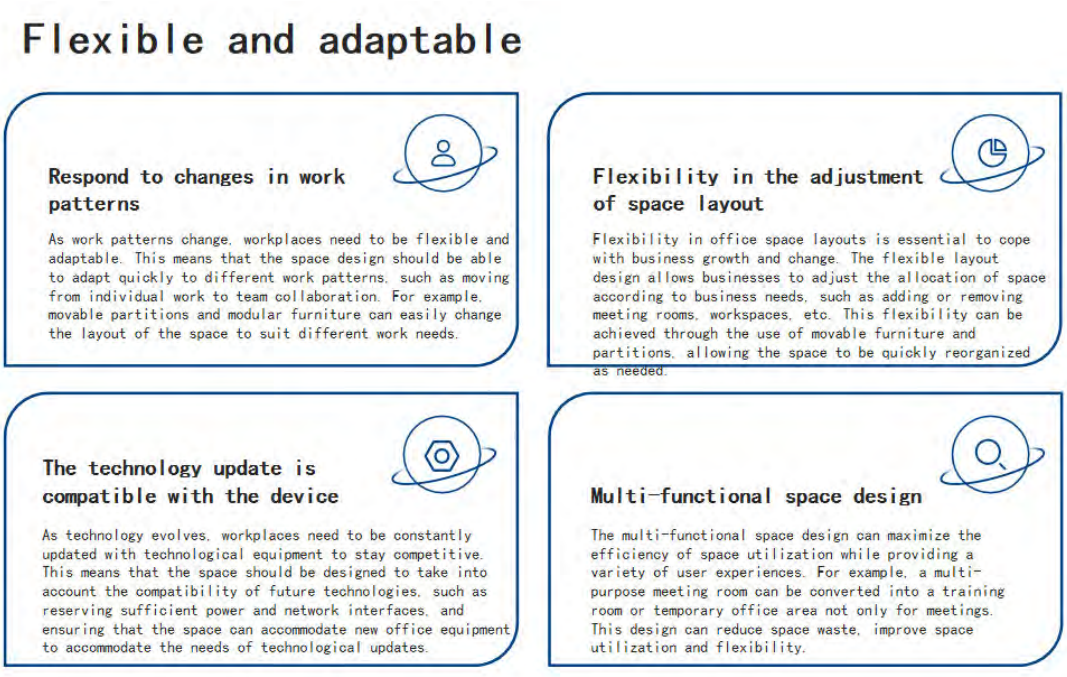


Fig. 1. 9. Flexible adaptability

The conclusions of the first chapter lay a solid foundation for subsequent research. By reviewing the historical evolution of the office environment, discussing scientific analysis methods, and clarifying research objectives, this paper not only reveals the challenges faced by current office environment design but also highlights the importance of obtaining universal design principles through scientific research. These conclusions provide powerful theoretical support and practical guidance for subsequent in-depth analysis of specific design cases, extraction of design principles, and formulation of improvement suggestions. In subsequent chapters, these core issues will continue to be explored, to contribute more valuable insights to the optimization of office environments in China.

Chapter 2. Analyzes the existing design objects based on the selected research field

2.1. Overview of the Design Objects

In the section overviewing the design objects, the focus is placed on numerous representative examples of office space design both domestically and internationally, delving into their design concepts, spatial planning, and functional configurations, with the aim of extracting outstanding experiences that can be used for reference.

Domestically, the Alibaba West Lake Campus in Hangzhou serves as an example. This office space fully integrates natural elements with modern technology, with its design concept highlighting the harmonious coexistence of "green ecology" and "efficient office work." In terms of spatial layout, multiple open office areas are set up within the campus, facilitating collaboration and communication among teams. At the same time, ample rest areas and entertainment facilities, such as gyms and cafes, are provided to relieve employees' work pressure and enhance work efficiency. In terms of functional configuration, the campus not only boasts advanced conference systems and network equipment but also introduces intelligent management systems, such as face recognition access control and smart parking, greatly improving office convenience and security.

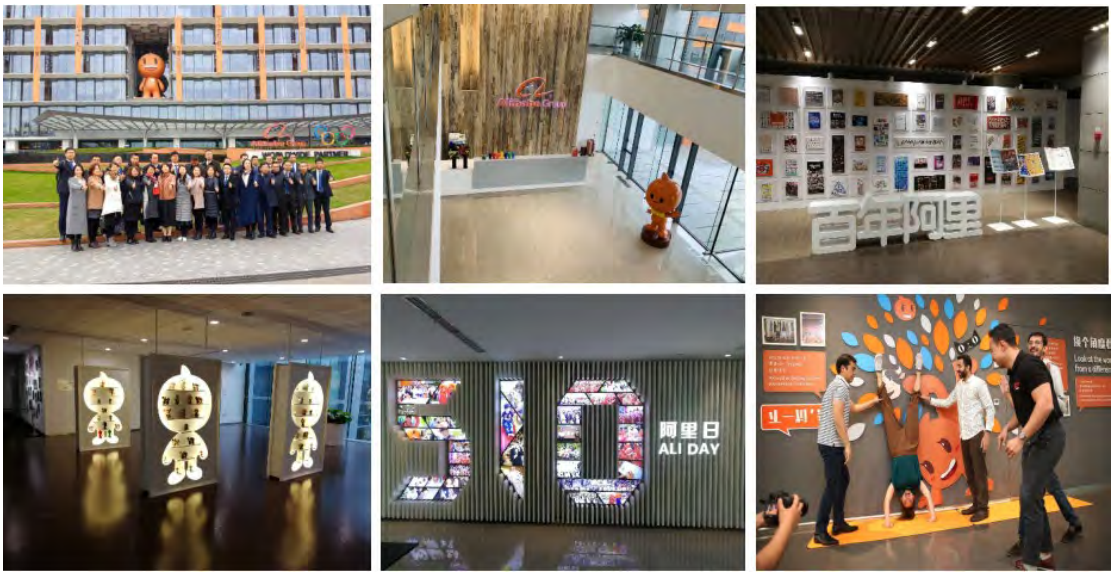


Fig. 2. 1. Alibaba, Hangzhou, Xixi Park

From an international perspective, Google's California headquarters, the Mountain View Campus, is also a paradigm worthy of emulation [5]. The campus's design concept emphasizes innovation and freedom, aiming to create an environment that inspires creativity among employees. In terms of spatial layout, Google adopts a flexible open-plan office model, encouraging free communication and idea exchanges among employees. The campus also features multiple innovation labs, creative studios, and rest areas, providing employees with abundant spaces for creation and relaxation. In terms of functional configuration, the Google campus is equipped with top-notch research facilities and network resources, as well as comprehensive employee service facilities such as cafeterias, medical centers, and nurseries, fulfilling employees' living and work needs in multiple aspects.



Fig. 2. 2. Of Google's California headquarters

In addition to the two representative typical cases of Alibaba Hangzhou Xixi Park and Google Mountain View City Park, this paper also in-depth analyzes the office space design of Microsoft, Apple, and other internationally famous enterprises, which further enriches the research content and broadens the horizon. These enterprises also closely combine advanced design concepts with efficient functional configuration, and are committed to creating an office space that not only meets the actual needs of employees but also can highlight the unique image of the enterprise.

In the office space design, Microsoft pays special attention to the core concept of "people-oriented". They know that a comfortable and pleasant working environment is crucial to improving employee productivity and satisfaction. Therefore, in the design

of office space, Microsoft not only pays attention to the beauty and practicality of the space, but also puts the physical and mental health and working experience of employees in the first place. Through the rational layout, careful selection of materials and the application of intelligent facilities, Microsoft has created a warm and efficient office environment for its employees.

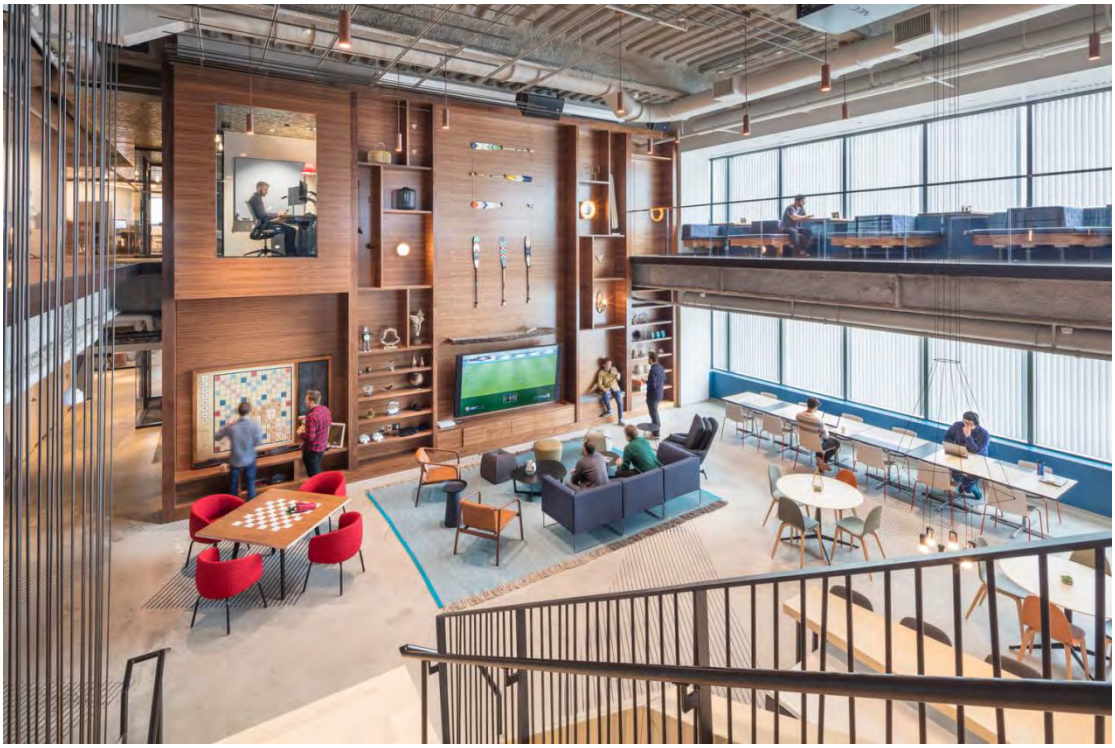


Fig. 2. 3 Microsoft: The company is headquartered in the United States

And Apple, with its unique design style and simple space layout, shows the unique charm of its brand culture. Apple's office space design not only reflects its pursuit of aesthetics and innovation but also gives full consideration to the actual needs of employees. Through the carefully created space environment, they not only improve the work efficiency and creativity of the employees but also let every employee deeply feel the unique atmosphere and cultural heritage of the Apple brand.



Fig. 2. 4. Apple Inc

Through an in-depth analysis of these typical cases, this paper clearly shows that excellent office space design usually has the following significant features.

First of all, pay attention to the integration of nature and humanity. In the design of office space, these enterprises fully consider the integration of natural elements and humanistic spirit, providing a comfortable and healthy working environment for employees. By introducing natural elements such as green plants and natural light, as well as setting up cultural facilities such as rest areas and recreational facilities, they effectively relieve the work pressure of employees and improve their physical and mental health and job satisfaction.

Secondly, it emphasizes flexibility and openness. The office space design of these enterprises usually adopts a flexible open layout, which facilitates the collaboration and exchange of ideas between teams. By breaking the traditional closed office mode,

they encourage more interaction and cooperation between employees, thus stimulating more innovative thinking and creative sparks.

Finally, the function configuration is complete and efficient. In the design of office space, these enterprises fully consider the diversified needs of employees and are equipped with complete and efficient functional facilities. By introducing advanced conference systems, network equipment, and intelligent management systems, they not only improve the convenience and security of the office but also provide employees with a more efficient and convenient work experience.

To sum up, the excellent design concept and efficient functional configuration shown by these typical cases provide valuable experience and inspiration for our subsequent research and practice. In the future office space design, we should pay more attention to the integration of nature and humanity, the improvement of flexibility and openness, and the completeness and efficiency of functional configuration, so as to create an excellent office space more in line with the needs of employees and corporate image.

2.2. Characteristics Analysis

In the comparative analysis of many office space environment characteristics at home and abroad, we can observe more carefully, different cases in open and closed office areas, leisure areas, and the specific Settings of conference areas, not only exist significant differences, and these differences behind the profound enterprise culture, management idea and regional cultural differences.

From the perspective of open and closed office areas, some large international enterprises, especially tech giants like Google and Facebook, are more inclined to adopt open office layouts. This layout breaks the physical boundaries of the traditional office, making the entire office space more transparent and open by reducing partitions and walls. In such an environment, the communication and cooperation between employees becomes more convenient, which promotes the communication and collaboration between teams. Open office areas are usually equipped with flexible workstations, highly adjustable desks, and comfortable office chairs to meet the working habits and needs of different employees. This layout not only improves work efficiency but also creates a relaxed, free working atmosphere.

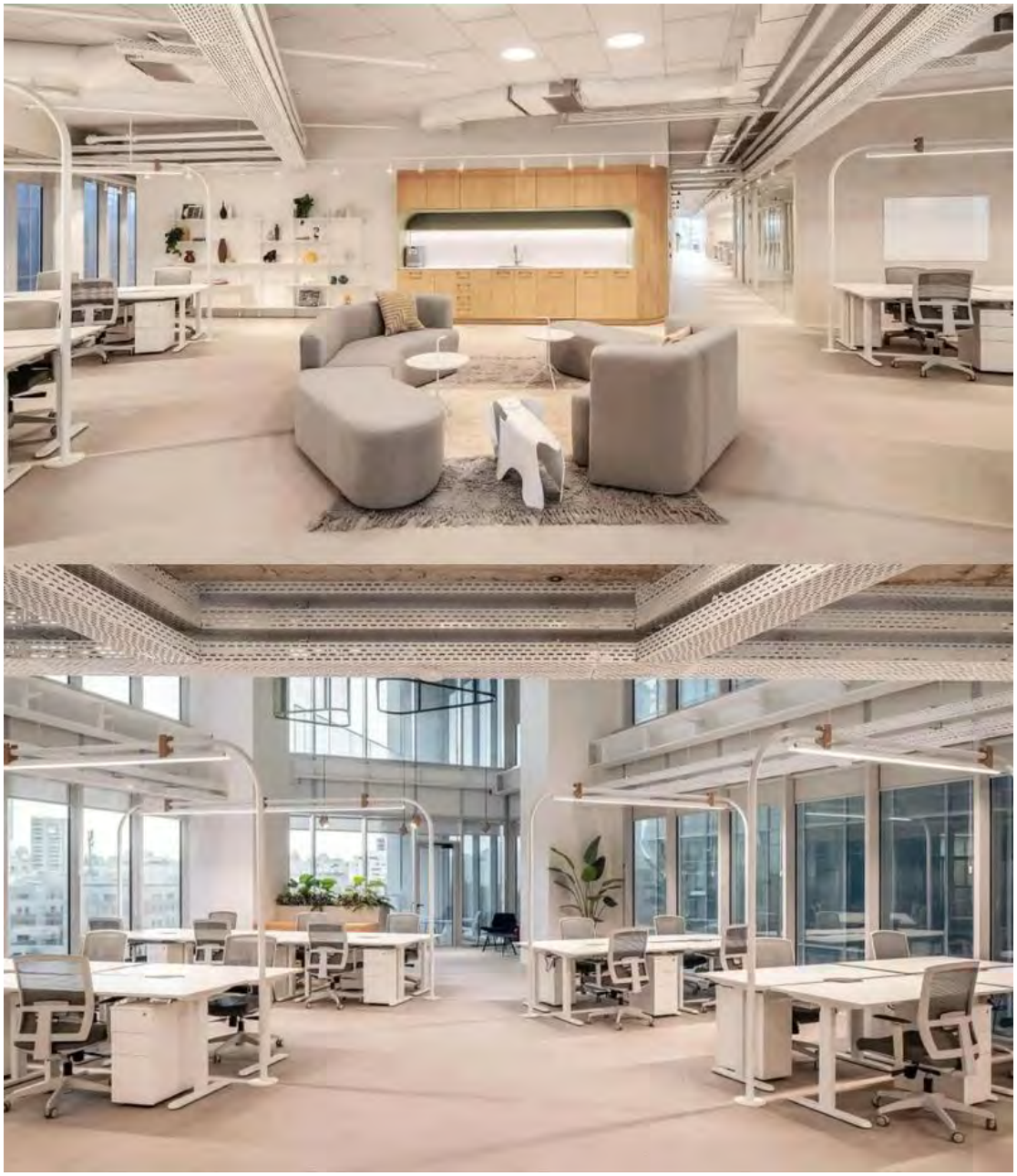


Fig. 2. 5. Open office area

However, not all enterprises are suitable for open office layouts. Some traditional industries or enterprises that need high confidentiality, such as finance and law, are more inclined to adopt closed office areas. These enterprises often need to carry out efficient business processing on the premise of ensuring work independence and information security. The closed office area provides employees with a relatively private

and quiet working environment by setting up independent offices and partitions, helping them to concentrate on their tasks.



Fig. 2. 6. Closed office area

In the setting of leisure areas, modern office places pay more attention to the physical and mental health of employees and leisure and relaxation. Some cutting-edge office space plans for multi-functional leisure areas, such as coffee bar, gym, reading corner, etc., to enrich their spare time life. These leisure areas not only provide a place for employees to relax but also promote communication and interaction between employees. For example, some office areas at Tencent are equipped with leisure facilities, allowing employees to exercise, read, or enjoy a cup of coffee. The setting of these leisure areas not only improves employees' job satisfaction and happiness but also stimulates their creativity and work efficiency.



Fig. 2. 7. Leisure area

As a key part of the office space, the setting of the meeting area also presents a diversified situation. Some enterprises have adopted the modern video conferencing

system to realize the convenience and efficiency of teleconferencing. These systems not only save time and cost but also increase conference engagement and interactivity. To meet the needs of different sizes of meetings, the office is also equipped with a small discussion room, a medium-sized meeting room a large lecture hall, and other types of meeting space. These conference areas are usually equipped with advanced audio-visual equipment, comfortable seats, and a good sound insulation effect, to ensure the smooth development of the conference and the effective transmission of information.



Fig. 2. 8. Conference area

In addition, there are also significant cultural differences in the design of office space in different countries and regions. For example, office space in North America tends to pay more for privacy and independence, so it prefers to have independent offices and partitions; however, office space in Asia is more focused on teamwork and sharing, so it prefers to adopt an open office layout and multi-functional leisure areas.

These cultural differences are reflected in the layout of the office area, the choice of furniture, and the decorative style.

To sum up, different cases have their characteristics in the setting of open and closed office areas, leisure areas, and conference areas. These differences not only reflect the culture and management concepts of different enterprises but also reflect the diversity and flexibility of modern office space design. Through the in-depth analysis and comparison of these cases, we can better understand the principles and trends of office space design, and provide useful references for future office space design. At the same time, we should also flexibly adjust and optimize the design of office space according to the actual situation of the enterprise and the needs of employees, to create a more comfortable, efficient, and creative office environment.

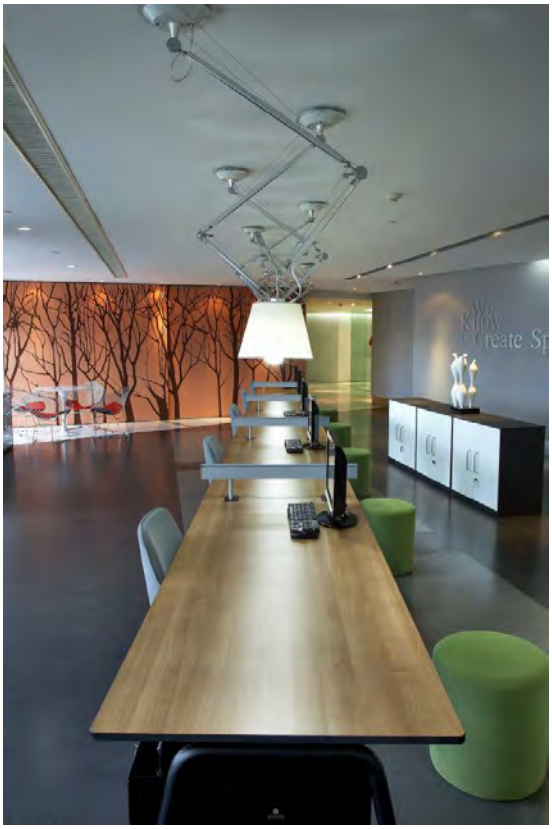


Fig. 2. 9. Diversity and flexibility in modern office space design

2.3. Summary of successful experience and challenges

When discussing the successful cases of office environment design, this paper found that many projects show significant advantages in spatial planning, function configuration, and user experience, but some problems need to be improved. For example, Google's office environment design is known for its openness and flexibility. Adopting a large number of open office areas, leisure areas, and creative spaces, effectively promotes communication and cooperation between employees and improves work efficiency and innovation ability. The office has a gym, cafe and outdoor terrace, which not only enriches the spare time life of employees, but also optimizes the office environment and enhances the sense of belonging and happiness of employees.

However, some corners of Google's office environment are also not using space efficiently. For example, some meeting rooms are too luxurious to take up a lot of space, resulting in a reduced [7] of actually available work areas. While open office areas facilitate teamwork, excessive noise interference may affect the productivity of employees who require high attention. Because of these problems, it is suggested that Google should conduct more reasonable space planning for the conference room in the future design, improve the utilization rate of space, and appropriately add sound insulation facilities, to provide the necessary private space for employees who need a quiet environment.

In the design of Alibaba's office environment, this paper sees the in-depth implementation of the concept of green ecology. The large number of green plants planted

in its office not only beautify the environment but also help to purify the air and improve the physical and mental health of employees. Alibaba also pays attention to the integration of technology elements into the office environment, such as intelligent lighting systems, automatic temperature control air conditioning systems, etc. These intelligent facilities not only improve the comfort of the office environment but also reflect the enterprise's commitment to environmental protection and sustainable development [8].

However, in some office areas of Alibaba, the functional partition is not clear enough problem is also more prominent. For example, some office areas are mixed with rest areas, so that employees may be disturbed by work at rest, affecting the quality of rest. Therefore, it is suggested that Alibaba should make a clearer functional division of the office area in the future design, to ensure that the work area and the rest area are independent of each other, to improve the work efficiency and satisfaction of employees.

The design characteristics of successful cases are worth learning and reference, but in practical application, they need to be adjusted flexibly in combination with specific situations. Given the existing problems, this paper should actively put forward suggestions for improvement, to maximize the space utilization, rationalize the functional configuration, and optimize the user experience in the office environment design.

In the second chapter, this paper provides a comprehensive and deep analysis of the existing design objects based on the selected research field. Through the selection and exploration of typical office space examples at home and abroad, this paper obtains

abundant design practice experience and enlightenment [9]. These examples cover different design concepts, spatial layout planning, and functional configuration patterns, giving us a valuable reference basis.

In the overview of design objects, this paper carefully analyzes several typical cases at home and abroad, and realizes that they have their characteristics [10] in spatial planning, functional zoning, and environment construction. For example, the office space of some internationally famous enterprises pays attention to openness and flexibility, through the use of mobile partitions, multi-functional workstations, and other design methods, effectively improving the use efficiency of space and employee satisfaction. And some outstanding examples in China pay more attention to the integration and embodiment of traditional culture, through the clever use of traditional elements and modern design techniques, to create an office environment with both cultural heritage and a modern sense.

In the link of feature analysis, this paper compares the differences of different cases in the characteristics of space environment, such as the setting ratio of open and closed office area, the functional positioning of leisure area and conference area, and so on, etc. Through comparison and analysis, this paper finds that successful office space design can usually fully consider the needs and behavior characteristics of employees, and create a comfortable, convenient, and creative working environment [11]. These designs can often reflect the culture and values of the enterprise, to enhance the sense of belonging and cohesion of employees [12].



Fig. 2.10. Office space gym

In the conclusion of successful experiences and challenges, this paper summarizes the design characteristics learned from success stories, such as focusing on spatial circulation, flexibility, and variability, and points out some problems in the current office space design, such as unreasonable functional zoning and poor air quality. Because of these problems, this paper puts forward a series of improvement suggestions, such as optimizing the spatial layout and strengthening the air quality monitoring and improvement.

Through the exploration and analysis of this chapter, this paper deeply realizes the importance of the office space environment to improve work efficiency and employee satisfaction. In the future, with the continuous development of science and technology and the continuous change in how people work, the design of office space will

also usher in more challenges and opportunities. Therefore, this paper needs to continue to pay attention to the industry dynamics and technology development, and constantly innovate the design concepts and techniques, to better meet people's needs for a high-quality office environment. This paper also expects that the research results of this chapter can provide some reference and reference value for future office space design.

Chapter 3. Research Methods and Introduction of the process and results of Office Indoor Environment Research

3.1. Study Methods

When exploring the construction criteria of the main office space environment, the selection and implementation of the research means are very critical. The research method of this article mainly covers literature overview, field exploration, investigation, and interview, aiming to build an all-round and in-depth theoretical framework and give a scientific basis to the practical design.

The literature review is the cornerstone of this study. By reviewing the literature on office environment design at home and abroad, this paper summarizes the hot spots and frontier of current research and finds that interdisciplinary theories such as ergonomics, environmental psychology, and architecture play an important role in the design of office environments. These theories provide a scientific basis for the design of the office environment. For example, ergonomics focuses on the correlation between the size and layout of office furniture and human comfort, environmental psychology emphasizes the impact of the environment on employees' mental health and work efficiency, while architecture pays attention to physical environmental factors such as spatial layout, lighting, and ventilation. The research results of domestic and foreign scholars in these fields have given us rich theoretical support and practical cases, which are conducive to a better understanding of the complexity of the office environment and provide a solid theoretical basis for subsequent research.

Field inquiry is an important part of this study. We selected a number of representative offices to carry out the field investigation and collected first-hand data through field observation, measurement, and recording. These data include the functional layout of the office space, traffic flow line, lighting and ventilation, furniture configuration, and other aspects, which provide strong support for us to deeply know the actual situation of the office environment. By comparing the characteristics and differences of different offices, this paper finds some common problems, such as space congestion and inappropriate functional zoning, etc., which provide a clear direction of improvement for the subsequent research and design.

To be more aware of the actual needs of employees for the office environment, this paper launched a survey and interview [13]. By designing the questionnaire, this paper collected data on employee satisfaction with the office environment, work efficiency, health status, and other aspects. This paper also conducted face-to-face interviews to further understand the specific needs and expectations of employees for the office environment. The results of these surveys and interviews show that employees have high requirements for comfort, privacy, communication, and other aspects of the office environment, which provides an important reference basis for the subsequent design.

By means of literature review, field exploration, investigation, and interview, this paper constructs a comprehensive and in-depth theoretical framework, which provides a scientific basis for subsequent research and design [14]. These methods complement each other and together constitute the core part of this study, laying a solid foundation

for exploring the composition principles of the main space environment of the office space [15].

3.2. Study process

Data collection and analysis are a crucial step when studying the composition principles of the main office space environment. To ensure the accuracy and scientificity of the study, various data sources were used, including field research, questionnaires, interview records, and published academic research results. These data were systematically curated and entered into the statistical software for a subsequent quantitative analysis.

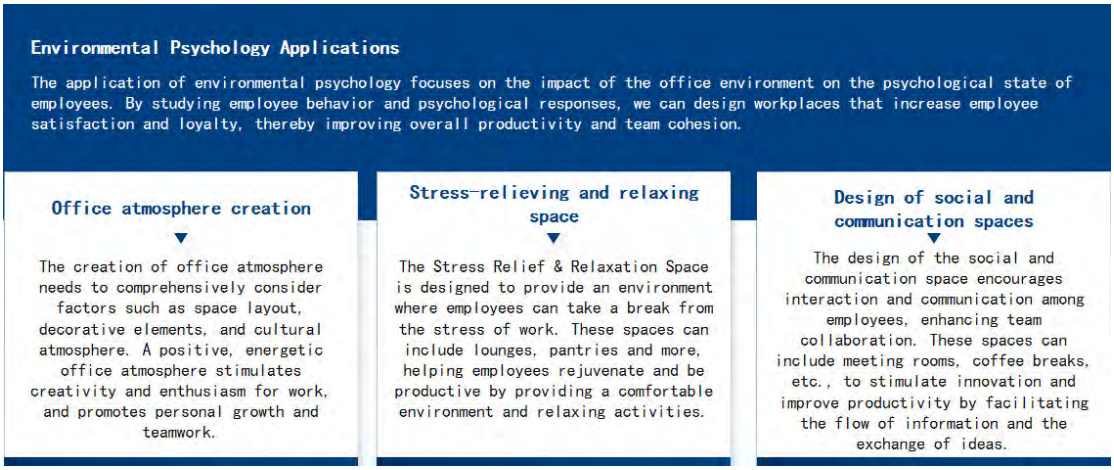


Fig. 3. 1. Application of environmental psychology

In the data collection stage, this paper first conducted a field survey on several representative offices. Through field observation, measurement, and recording, this paper obtains first-hand data on office space layout, functional configuration, facility status and other aspects. This paper designed a detailed questionnaire to understand the staff satisfaction and actual needs of the office environment. The questionnaire covers

many aspects, such as space comfort, air quality, noise control, lighting and lighting, to ensure the comprehensiveness and diversity of the data [16].

In the data analysis stage, this paper used a variety of statistical methods to mine the data deeply. Through descriptive statistical analysis, this paper understands the distribution characteristics and basic situation of data; through correlation analysis, this paper discusses the correlation degree and influence direction between different variables; through clustering analysis, the office is classified according to certain characteristics or attributes to get a deeper understanding of the differences. The results of this analysis provide a solid basis for subsequent case comparison and induction.

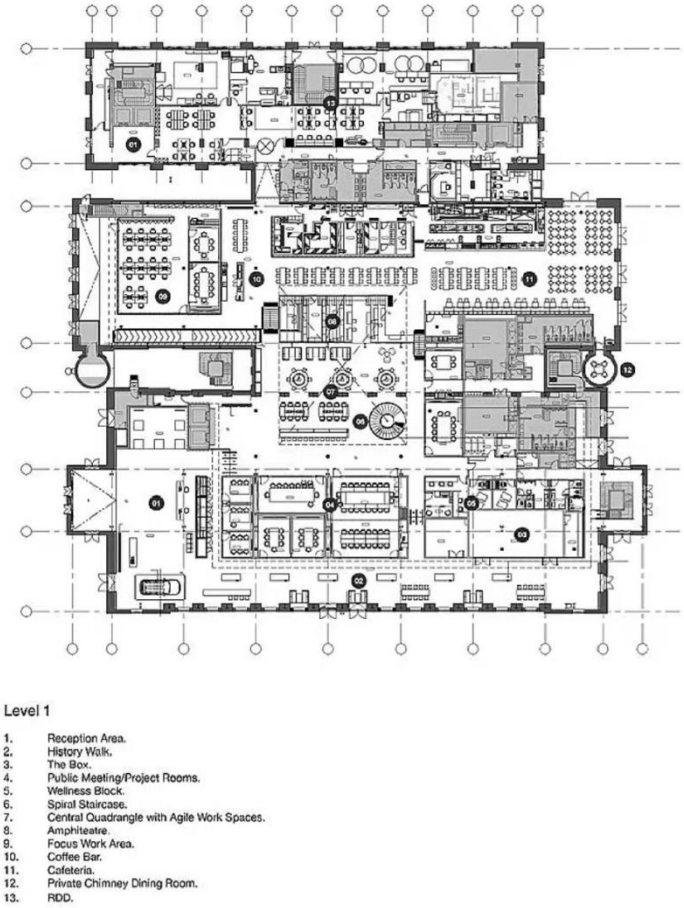


Fig. 3. 1. Generally applicable design principles

In the link of case comparison and induction, this paper selects many typical cases at home and abroad for in-depth analysis. By comparing the similarities and differences in the spatial environment characteristics, design concepts, and functional configuration of different cases, this paper gradually summarizes some generally applicable design principles. For example, in spatial layout, reasonable functional zoning and streamlined design can improve work efficiency and employee satisfaction; in facility configuration, ergonomic and environmentally friendly furniture and equipment can create a more comfortable and healthy working environment.



Fig. 3. 3. Facilities, ergonomic and energy-friendly furniture, and equipment can create a more comfortable and healthy working environment

This paper also provides a supplementary analysis combined with the data and cases on the Internet. By searching relevant websites, forums, and social media platforms, this article provides a lot of information about office space design and staff

feedback. This information not only enriches our research content but also provides us with more inspiration and ideas.

Through the research process of data collection and analysis, case comparison, and induction, this paper gradually reveals the composition principle of the main space environment of the office space. These principles not only have theoretical value but also can provide useful guidance and reference for the practical design and optimization of office space.

3.3. Results of the theoretical study

In the process of theoretical exploration, the key elements that affect the office space environment are identified one by one. Through the analysis and conclusion of many cases, this paper realizes that the functional needs of office space, personnel composition, the application of technical equipment corporate culture, and other elements all have a far-reaching role in the office environment.

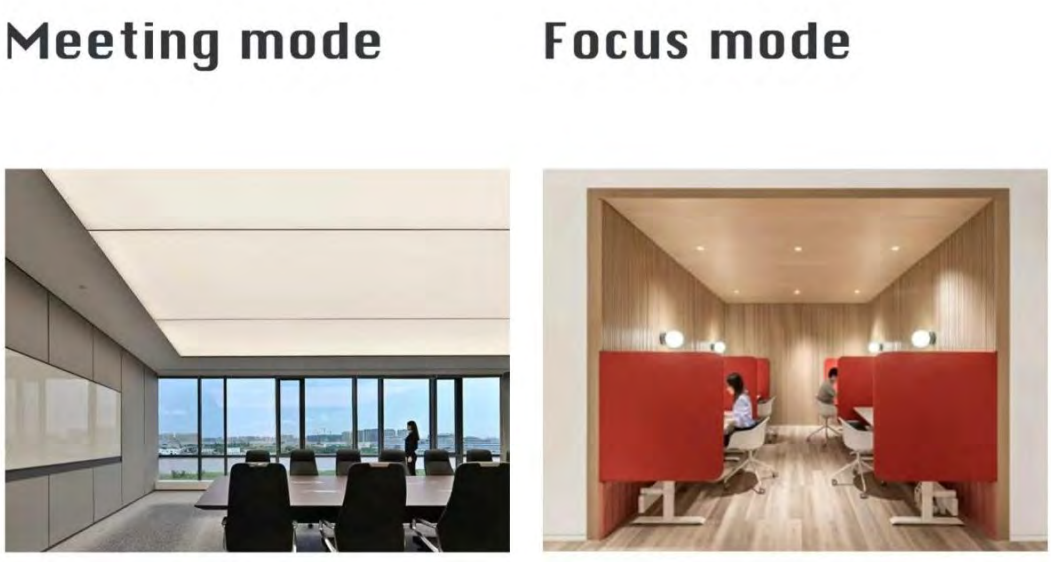


Fig. 3. 2. Meeting mode Focus mode

Functional needs are the first aspect to be considered in office space design. Different enterprise departments or teams also have different demands for space due to their different business nature. For example, creative teams usually prefer more open and flexible space planning to promote the collision of creativity and inspiration, while finance or legal departments focus more on privacy and security, and need to set up relatively closed office areas. Therefore, the division and connection of each functional area should be comprehensively considered in the design, to meet the work needs of different teams.

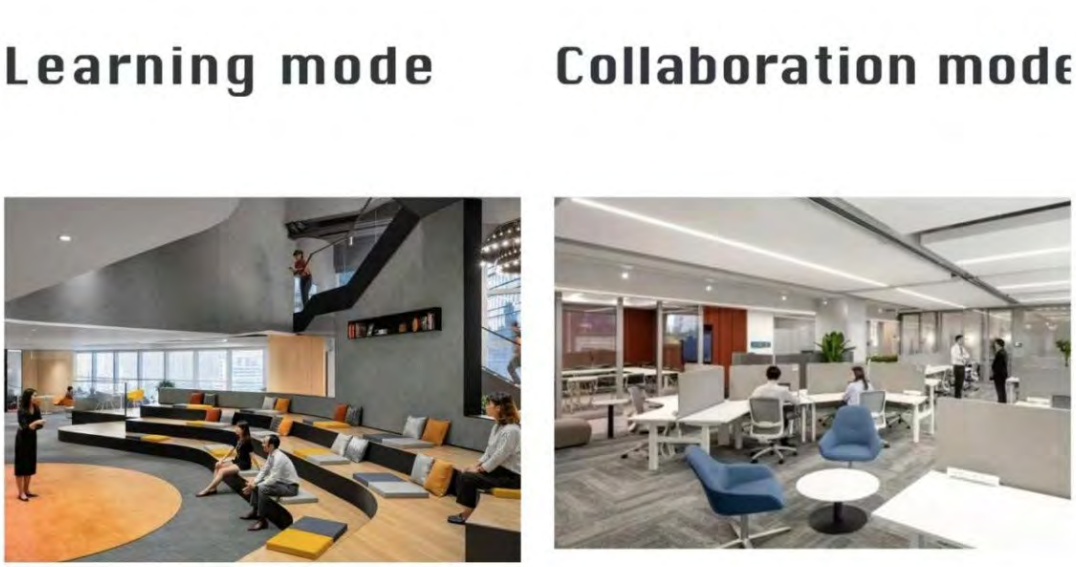


Fig. 3. 3. Learning mode Collaboration mode

Personnel composition is also an important factor affecting the design of office space. The size of the enterprise, the number of employees, the age structure, and the

gender ratio will all have an impact on the space capacity, the layout, and the configuration of facilities. For example, young employees may pay more attention to the setting of rest and entertainment areas, while middle-aged and elderly employees may pay more attention to the comfort degree and health of the office environment. Therefore, in the design needs to highlight the people-oriented, and fully consider the actual needs and preferences of employees, to create a positive working atmosphere

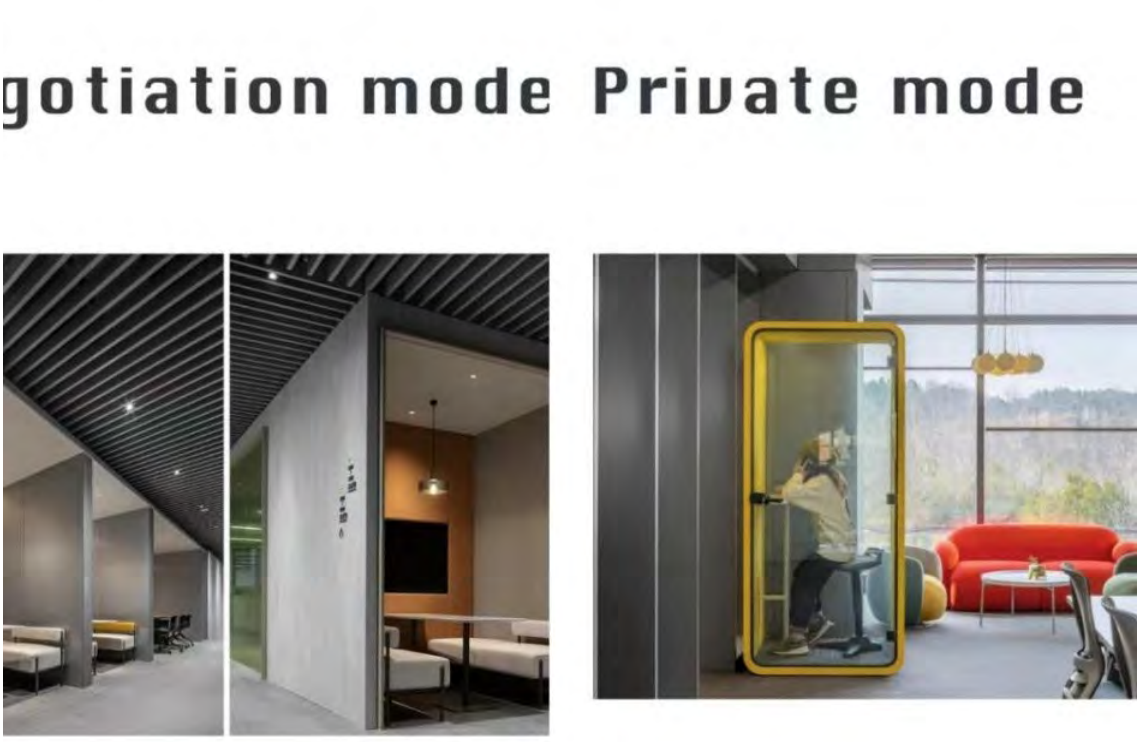


Fig. 3. 4. Negotiation mode Private mode

The impact of the application of technical equipment on the office space environment can not be underestimated. With the rapid development of digitalization and intelligence, the modern office environment cannot be separated from all kinds of high-tech equipment. This equipment not only changes the traditional office mode but also puts forward new requirements for the spatial layout and facility configuration. For example, the popularity of video conference systems causes the design of conference rooms to pay more attention to acoustic effects and video clarity, while the wide application of mobile office equipment requires a more flexible spatial layout to meet the needs of different work scenarios.

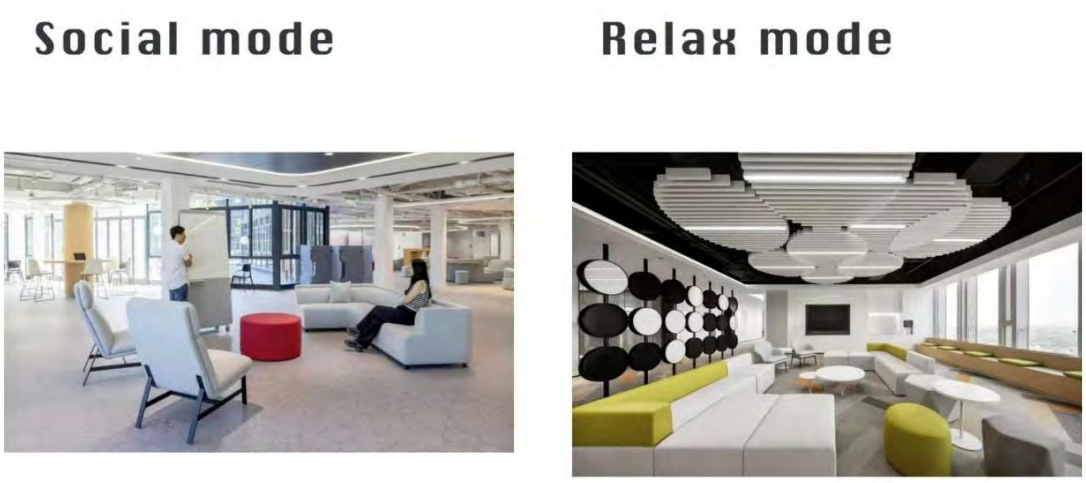


Fig. 3. 5. Social mode Relax mode

In terms of corporate culture, its core values, business philosophy and team spirit will have a profound impact on the office environment. An enterprise focusing on innovation and openness tends to have a more free and flexible office environment and encourages communication and collaboration among employees, while an enterprise

that emphasizes order and efficiency may pay more attention to the cleanliness and order of space. Therefore, it is necessary to fully integrate corporate culture elements into the design to create an office environment that fits the characteristics of the enterprise.

Based on the above analysis, this paper describes the key design principles of office space. The spatial layout should meet the functional needs and ensure the smooth connection between functional areas; the design should be people-oriented, focusing on the actual needs and preferences of employees; the application of technical equipment and future development trends; the design should integrate corporate culture elements to create an office environment with enterprise characteristics. These principles will provide strong guidance for the design and optimization of the subsequent office space.

3.4. Chapter 3 Conclusion

Through an in-depth discussion of research methods and the process of the office indoor environment, this chapter captures a series of key conclusions.

In the research method section, the literature review gives us a solid theoretical foundation and summarizes the rich research results on the design of office space environments at home and abroad. These achievements not only include the theories of ergonomics, environmental psychology, architecture, and other disciplines but also point out the direction for our subsequent research . Through field research, this paper went deep into some typical office spaces and collected the primary data on the spatial layout, functional configuration, air quality, and other aspects. Employee satisfaction

surveys and interviews allow us to more accurately grasp the actual needs of employees in the office environment, giving an important basis for the refining of design principles.

In the process of research, this paper uses statistical software to carry out a quantitative analysis of the collected data, to ensure the objectivity and accuracy of the research results. After case comparison and induction, this paper realizes that there are differences in the design concepts, spatial planning, and functional configuration of different office Spaces, but there are some common design principles hidden behind these differences. For example, whether domestic or foreign office space, generally pay attention to the openness and flexibility of the space, to meet the diversified work needs of employees. Air quality, lighting, and other environmental factors are also important factors affecting the comfort of the office environment.

In the results section of theoretical research, this paper defines the key elements that affect the office space environment, covering functional requirements, style preferences, employee behavior, etc. Based on these elements, this paper classifies the office space and summarizes the characteristics and requirements of each type of space. For example, the open office area focuses on teamwork and communication efficiency, while the closed office area focuses more on the privacy and focus of employees. On this basis, this paper found several key principles of office space design, such as the rationality of spatial layout, the completeness of functional configuration, the comfort of environmental factors, and the harmony of artistic composition.

These design principles not only have theoretical value but also have practical guiding significance. They can provide a scientific basis for designers and planners of office space, help them better meet the needs of employees, and improve the overall quality of the office environment. These principles can also guide the managers of enterprises, help them optimize the office space environment with limited resources, and improve their work efficiency and satisfaction.

The research in this chapter not only enriches our cognition of the design of the office space environment but also gives strong support for the subsequent practice. In the future, we will continue to deepen the research in this field, explore more innovative design concepts and methods, and contribute to the optimization of the office space environment.

Chapter 4. Interior Design of Modern Office In China. The building site is an example

4.1. Description of design conditions

The design conditions description section details the original data of the construction site of the indoor development objects, which is crucial to the subsequent design work.

This article focuses on the basic layout and spatial planning of the building. Take the original plan of the twelfth floor as an example, the drawing is drawn in a 1:100 scale, clearly showing each functional area on the floor. In terms of layout, the upper and lower level office areas are reasonably divided to ensure a smooth and efficient work process. The drawings also specify the dimensions of each room, 1600mm, 4600mm, 4200mm, etc. These data provide a precise basis for the subsequent furniture layout and space utilization.



Fig. 4. 1. Floor plan

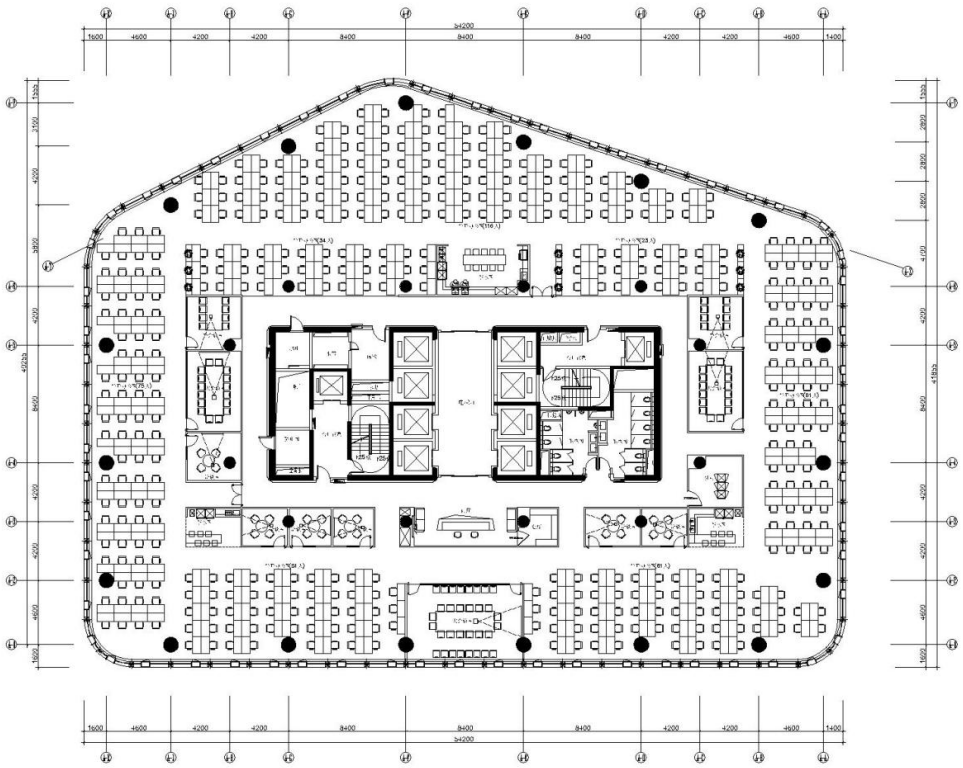


Fig. 4. 2. Floor plan

In terms of environmental control, the original data covers multiple systems such as air supply, smoke exhaust, HVAC, and air conditioning water. The air supply system ensures the circulation and freshness of indoor air, and the positive pressure design effectively prevents the intrusion of external pollutants. The smoke exhaust system can quickly eliminate harmful gases in an emergency to ensure the safety of personnel. HVAC and air conditioning water systems jointly maintain the indoor temperature and humidity, creating a comfortable working environment for office staff.

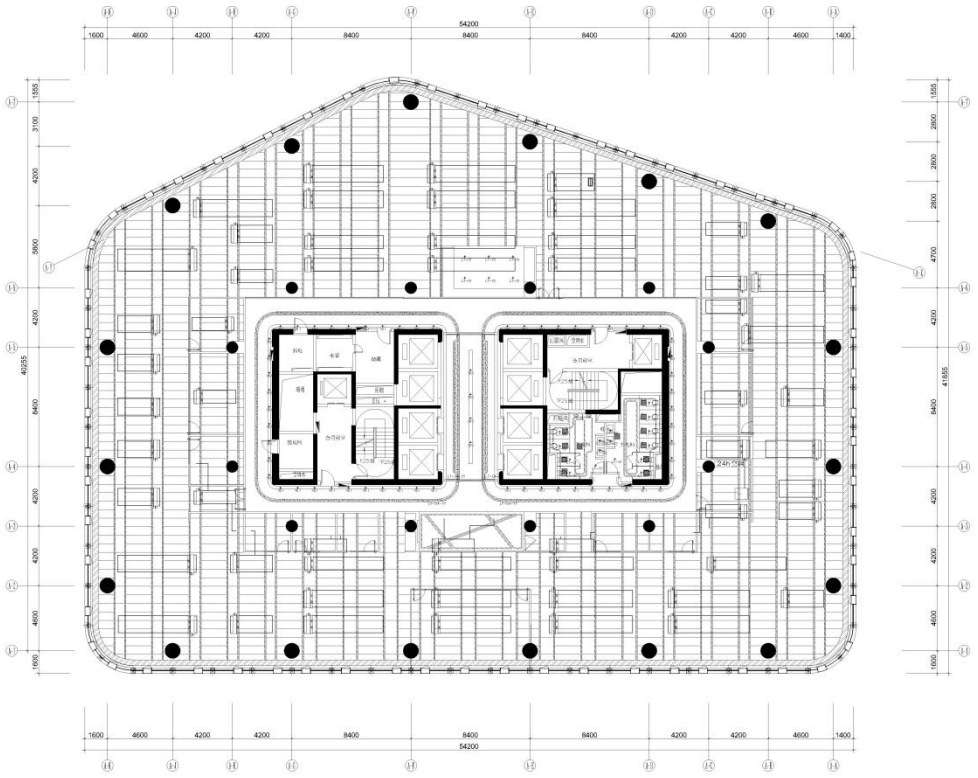


Fig. 4. 2. Ceiling layout plan

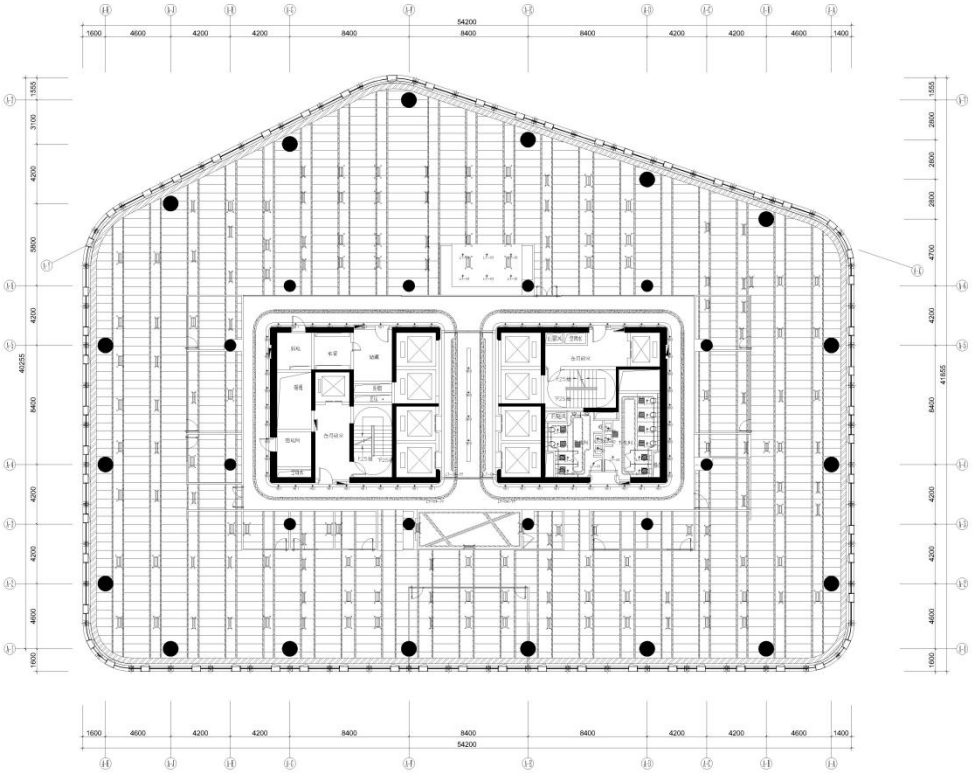


Fig. 4. 3. Ceiling layout plan

The raw data also involves the equipment room and auxiliary space in the floor. The setting of strong and weak current rooms meets the needs of power and communication in the floor and ensures the normal operation of office equipment. The planning of the toilet, the shared front room and the storage room fully considers the daily needs and convenience of the staff. The setting of the cleaning room reflects the importance of the floor sanitation environment.

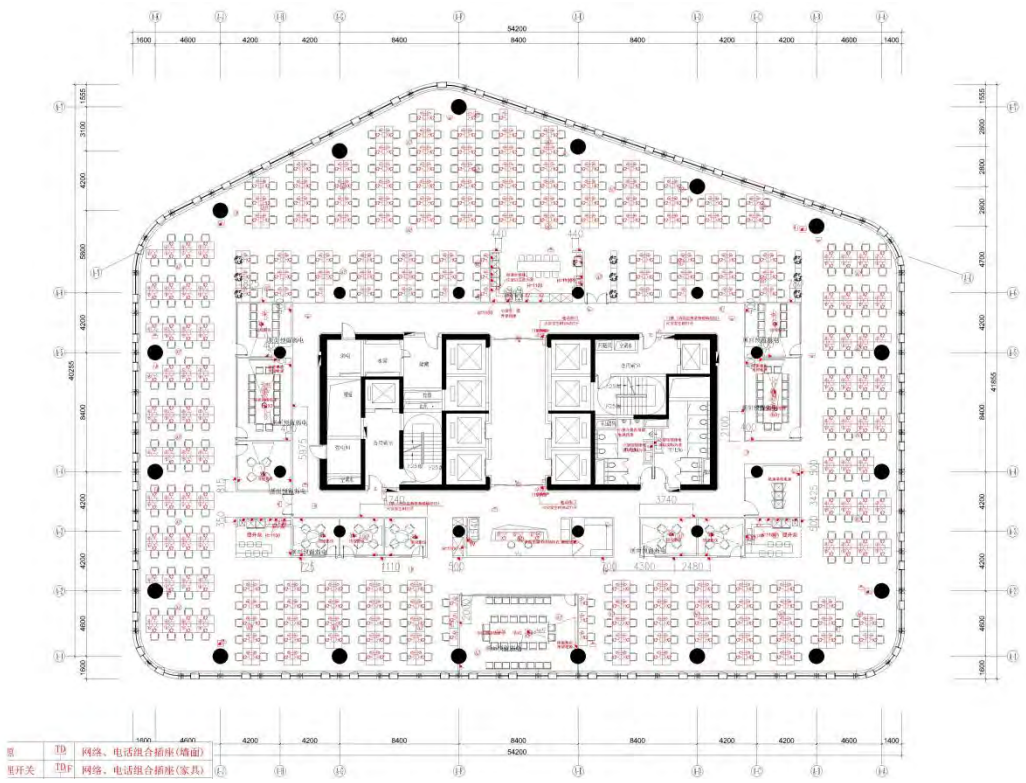


Fig. 4. 4. Power distribution layout

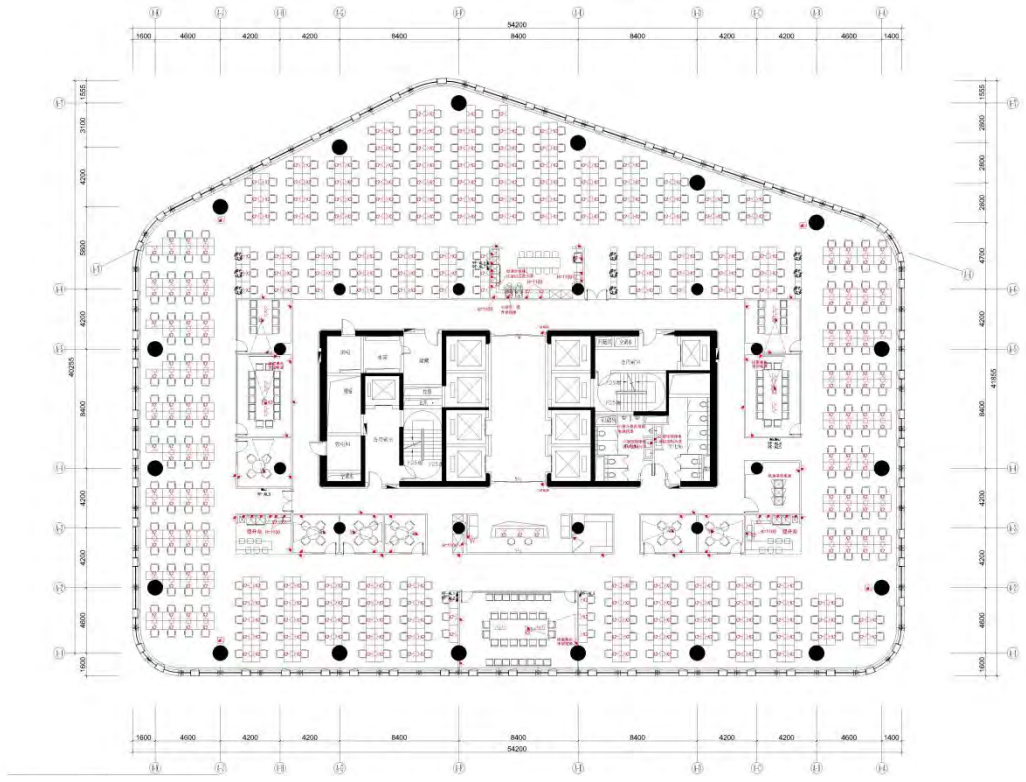


Fig. 4. 5. Power distribution layout

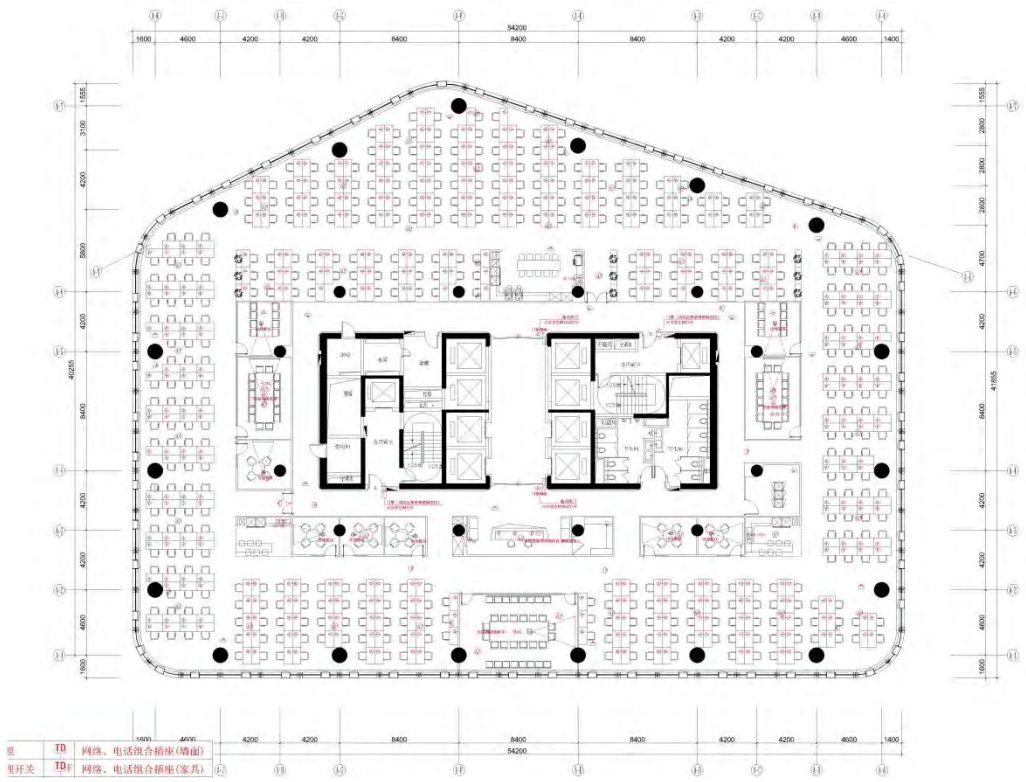


Fig. 4. 6. Low voltage distribution layout

In terms of details, the original data also includes the specific direction and size of the water pipes in the floor, which is crucial to the subsequent water supply and drainage design. The drawings also indicate the orientation and Angle of each room, such as 26.57,18.43, etc. This information can help designers to fully consider the natural lighting and ventilation conditions in the planning, and further improve the comfort of the office environment.

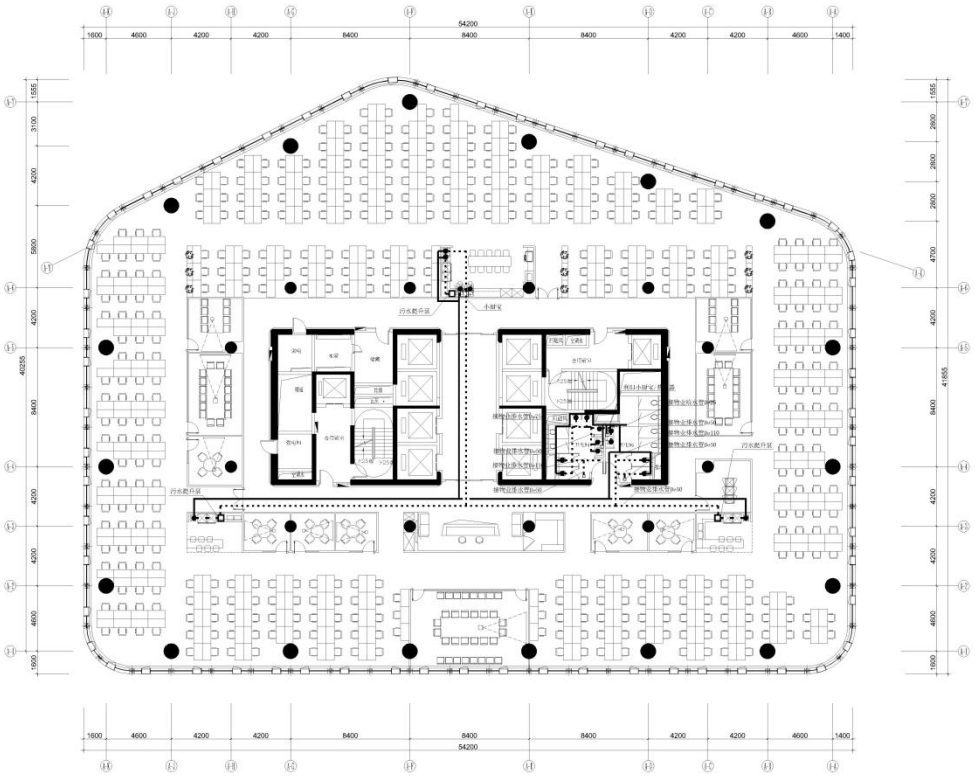


Fig. 4. 7. Lighting circuit arrangement plan

The description of design conditions provides the original data with a solid combing and analysis for the subsequent design work. These data not only cover the basic layout and spatial planning of the building but also involve environmental control, equipment room, and auxiliary space, to ensure the comprehensiveness and accuracy of the design work.

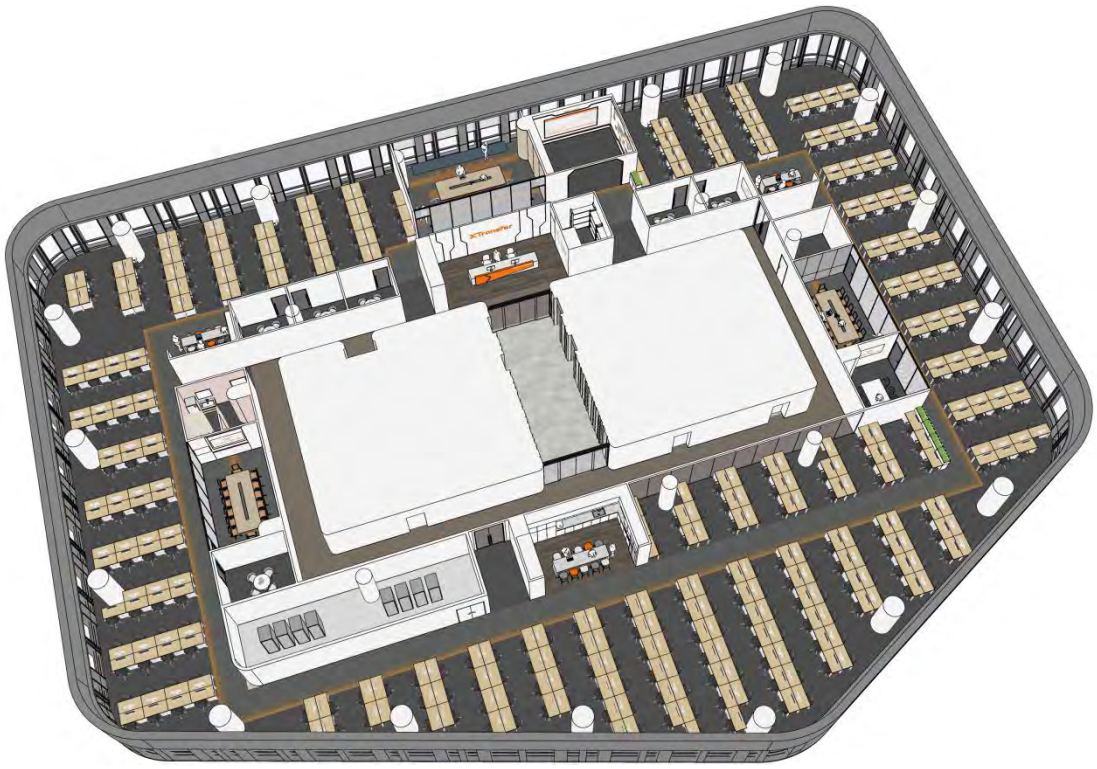


Fig. 4. 8. floor plan

4.2. Functional planning and spatial characteristics of the main places of the office.

When analyzing the functional planning and spatial characteristics of the main places of the office, it should be comprehensively considered from multiple dimensions, to ensure the efficient use of space and the comfort of employees. Take modern Chinese building places as an example, the design of the office should not only consider functionality and beauty but also meet the requirements of air supply, smoke exhaust, heating, air conditioning water, and other systems, to maintain a good indoor environment.

The office area is divided into several functional areas, covering the open office area, conference room, negotiation room, storage room, toilet and so on. As the main part of employees' daily work, the open office space layout needs to pay attention to flexibility to facilitate communication and cooperation with employees. In the design process, the space utilization rate can be optimized through the reasonable channel setting and the placement of tables and chairs, while ensuring that every employee can enjoy the appropriate natural light and ventilation conditions.



Fig. 4. 9.Administrative area

According to their size, conference rooms are divided into large conference rooms, medium conference rooms, etc., to meet the needs of different sizes. These areas are often equipped with advanced audio-visual equipment, such as large-screen display systems, to support efficient meetings. In addition, the design of the meeting room also needs to consider the sound insulation effect to ensure the confidentiality of the meeting content.

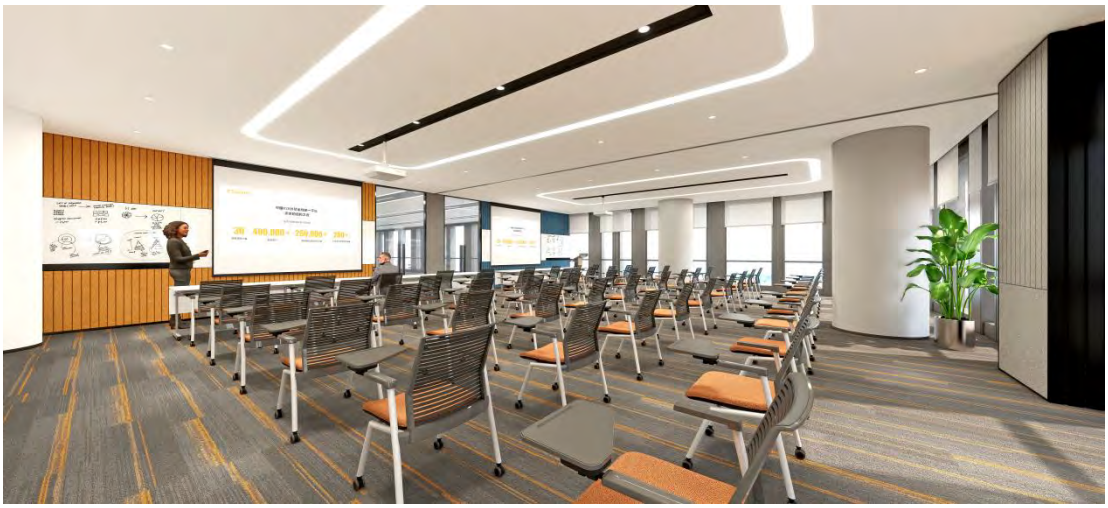


Fig. 4. 10. Assembly room

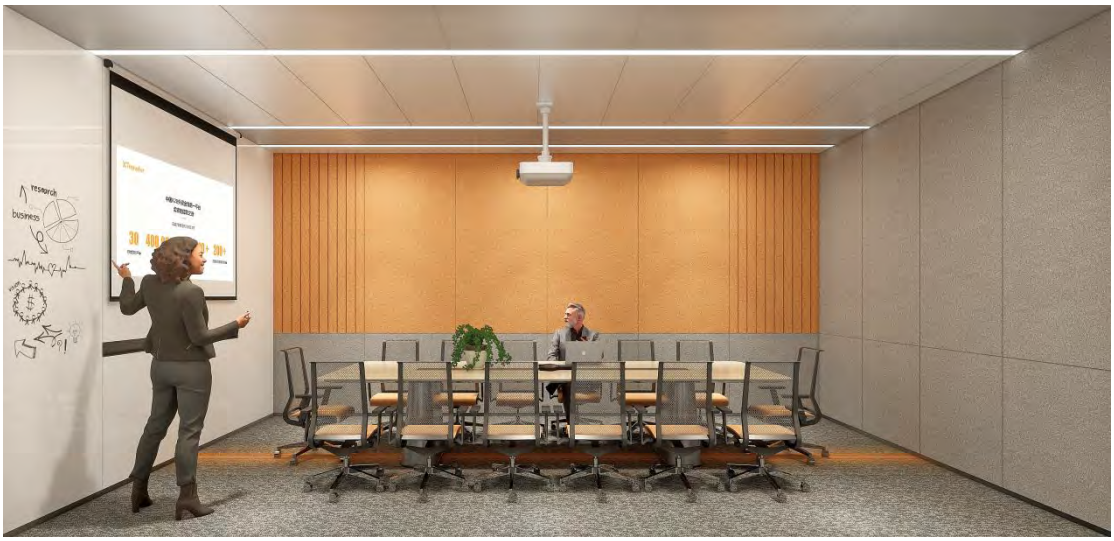


Fig. 4. 112. Assembly room

As the key place for business negotiation, the design of the negotiation room needs to pay attention to the comfort and privacy of [19]. Through the reasonable space layout and furniture selection, create a professional and warm negotiation atmosphere. The

negotiation room also needs to be equipped with the necessary communication equipment to support the teleconference and business communication.

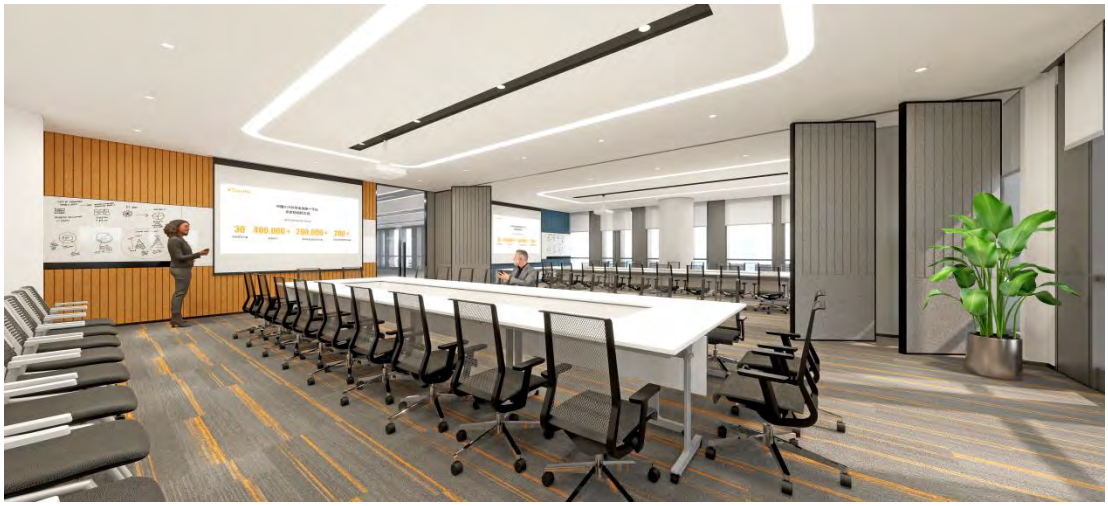


Fig. 4. 12. Assembly room



Fig. 4. 13. Conference room

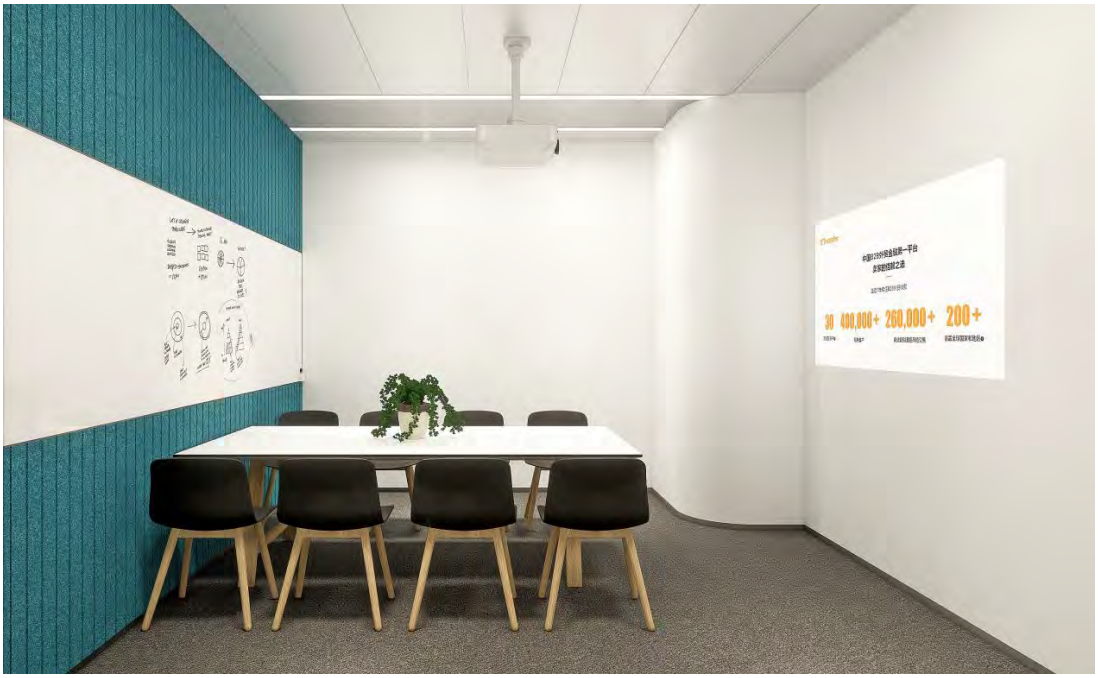


Fig. 4. 14. Conference room

The design of the storage room should fully consider the storage needs of the items, through the reasonable shelves and storage cabinet setting, to ensure that the items can be neatly placed and easy to use [20]. The storage room also needs to be kept dry and ventilated to prevent moisture and mildew.

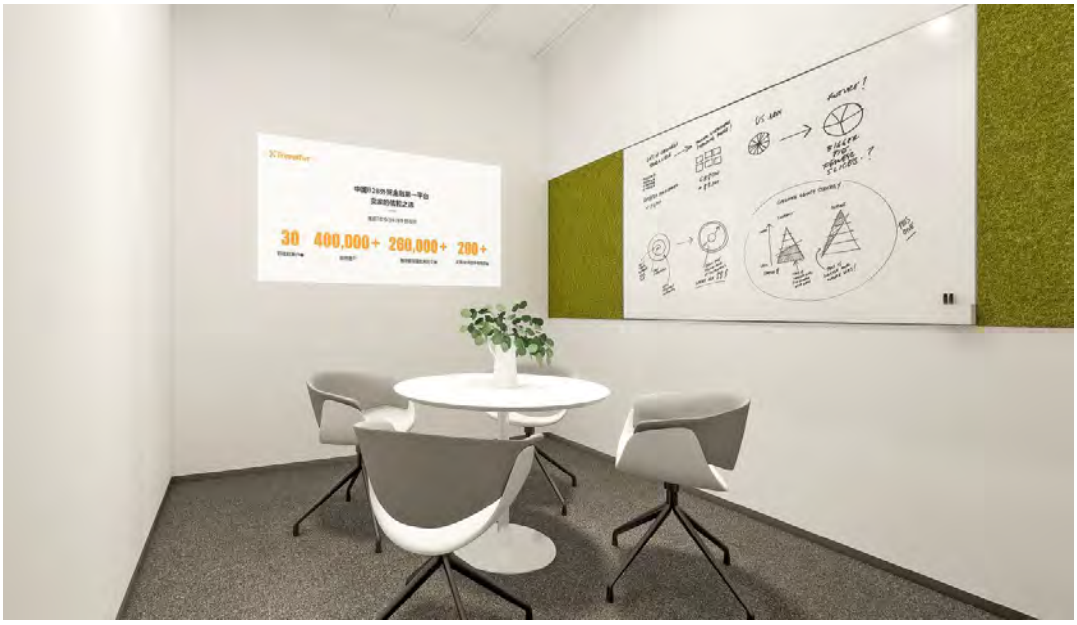


Fig. 4. 16. Reception area

In the design of air conditioning water, air supply, smoke exhaust and other systems, it is necessary to ensure that each system can operate in coordination to maintain the comfort of the indoor environment. The air supply system needs to be intelligently adjusted according to the indoor personnel density and temperature requirements to ensure uniform air circulation. The smoke exhaust system should quickly discharge smoke in an emergency to ensure the safety of personnel. The HVAC system needs to be adjusted intelligently according to the seasonal changes to ensure that the indoor temperature is suitable.

Office design also needs to pay attention to humanistic care, such as setting up tea area, mother and baby room, etc., to meet the diverse needs of employees. The tea area can provide a comfortable rest environment for employees to relax and communicate after intense work. The mother and baby room provides a private and safe breastfeeding environment for breastfeeding employees, which reflects the enterprise's care and respect for employees.



Fig. 4. 15. Leisure area



Fig. 4. 16. Leisure area

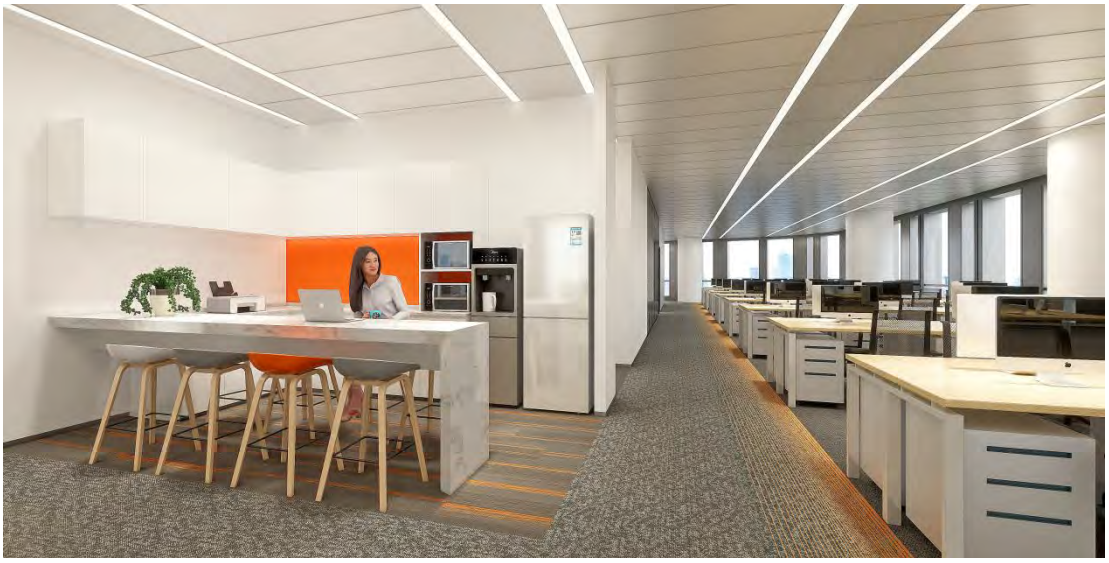


Fig. 4. 17. Leisure area

The functional planning and spatial characteristics of the main places of the office need to be considered in multiple aspects to ensure the efficient use of the space and the comfortable experience of employees. Through the reasonable function layout, advanced system design, and the integration of humanistic care, to create an efficient and comfortable office environment.

4.3. Create the art and composition inside the office

When creating art and composition methods inside the office, designers need to combine aesthetic principles with practical needs to create an efficient and artistic office environment. This requires designers not only to have a solid spatial planning ability, but also to deeply understand color psychology, the use of light and shadow, material collocation, and other artistic expression techniques.

As the basic element of visual art, color plays a very important role in the design of office space. Proper color matching can not only improve the visual comfort of the space but also stimulate the creativity and enthusiasm of employees. For example, choosing soft colors, such as rice white, light blue, or light gray as the main colors, can create a quiet and fresh working atmosphere, while in the rest area or creative area, bright colors can be appropriately introduced to stimulate the vitality and inspiration of employees.

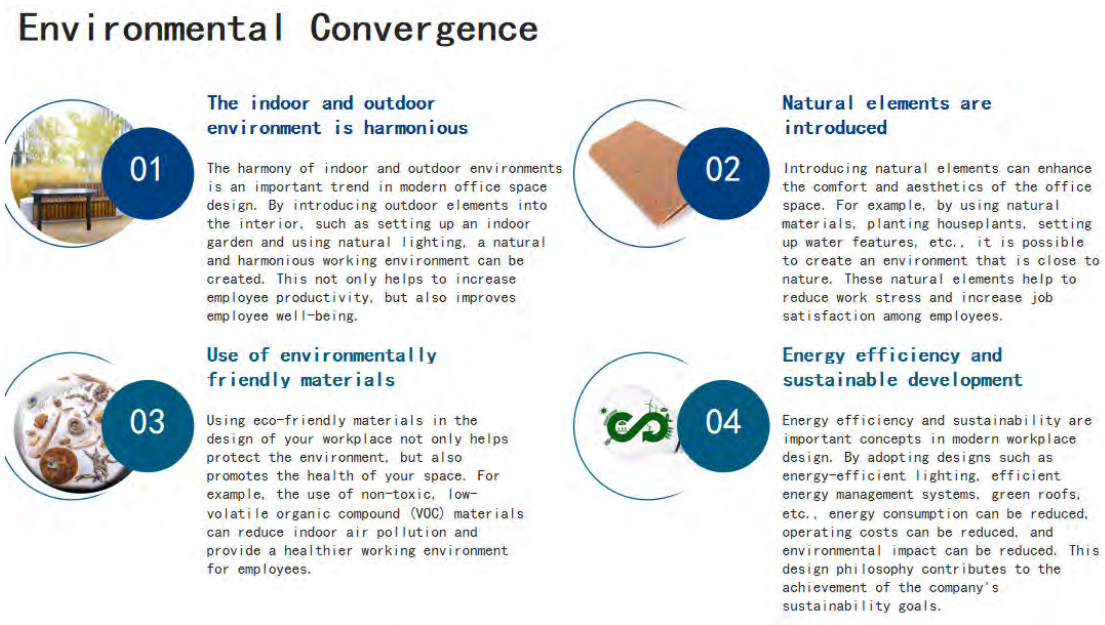


Fig. 4. 18. Environmental Convergence



Fig. 4. 19. Foreground partition



Fig. 4. 20. Foreground partition



Fig. 4. 21. Foreground partition

The use of light and shadow also has a profound impact on the artistic effect of the office environment. The introduction of natural light can not only improve the brightness and transparency of the space but also effectively improve indoor air quality, which is greatly beneficial to the physical and mental health of employees. Designers can maximize the introduction of natural light by cleverly setting up Windows, sky-lights or using partition materials with good light transmittance. With the appropriate lighting design, such as the use of adjustable brightness and color temperature of LED lamps, according to the time, weather, and work needs of flexible adjustment, to create a more comfortable and efficient working environment.

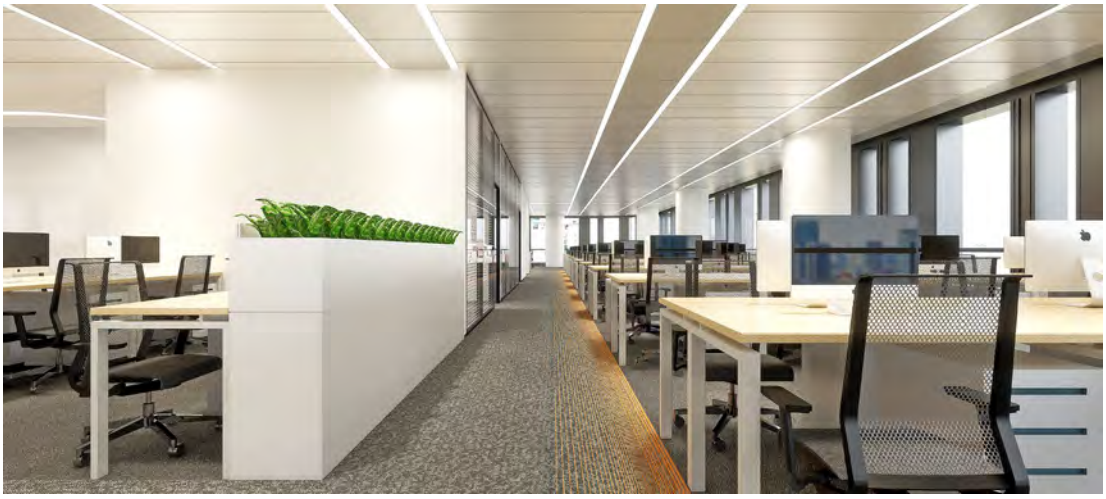


Fig. 4. 24. Office area

The choice and collocation of materials is also the key to shaping the artistic atmosphere of the office space. Different materials have their own characteristics in texture, texture and color, which can convey different visual and tactile experiences. Designers can combine the overall style and functional needs of the office space, and carefully select the appropriate materials for collocation. For example, in the formal occasions such as conference rooms, can choose the natural wood or stone of calm texture, and elegant color, and in the rest area, can use soft and comfortable fabric material, to create a warm, relaxed atmosphere.



Fig. 4. 25. Cultural Exhibition Hal



Fig. 4. 22. Cultural Exhibition Hal

The ornament of art and green plants is also an effective way to enhance the artistic taste of the office space. Selecting several artworks consistent with the corporate

culture, such as abstract paintings, photography works, or handicrafts, not only can highlight the cultural heritage of the enterprise but also bring beautiful enjoyment to the employees. The introduction of green plants can not only purify the air, and improve the indoor microclimate but also add the vitality and vitality of the space so that employees can feel the natural comfort after intense work.

To create the art and composition inside the office, it is necessary to start with color collocation, light and shadow application, material selection, and the ornament of art and green plants, through careful design and clever collocation, to create a beautiful and practical office environment.

4.4. Conclusion of Chapter 4

Through an in-depth analysis of modern office interior design, especially in Chinese building sites, several key conclusions are drawn in this chapter.

In the design of modern office space, functional planning, and spatial characteristics are the core elements. The study found that an efficient spatial layout can not only improve the work efficiency of employees but also create a more comfortable office environment. For example, the reasonable collocation of open office areas and private meeting rooms can not only meet the needs of team cooperation but also ensure the focus of individual work. Setting up the leisure area helps to relieve the work pressure of the employees and improve overall job satisfaction.

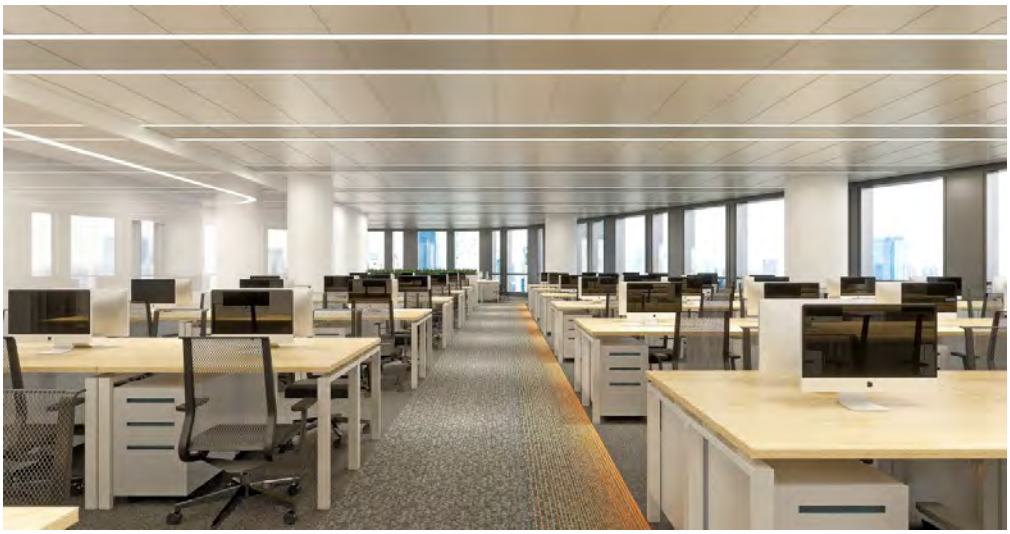


Fig. 4. 27. Office Area

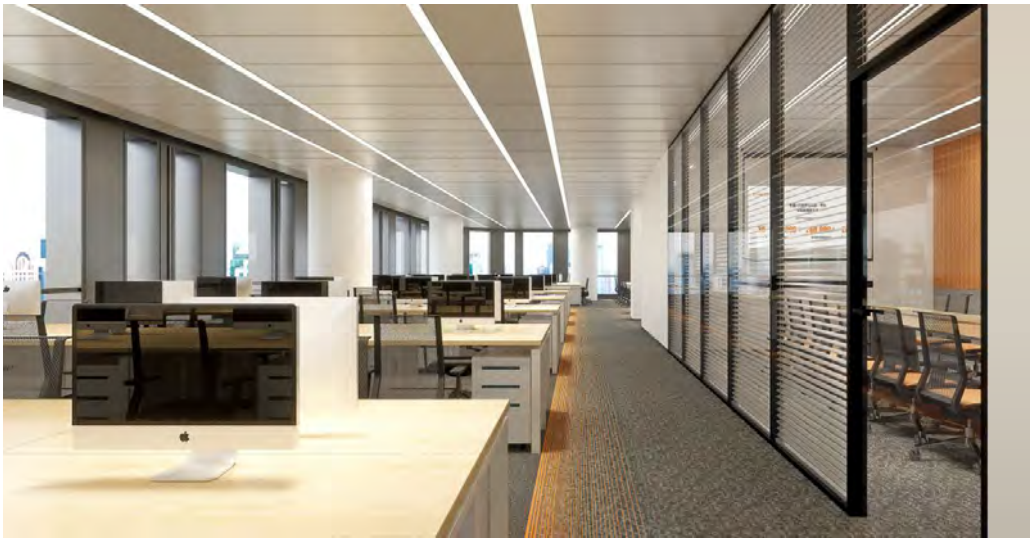


Fig. 4. 23. Office Area

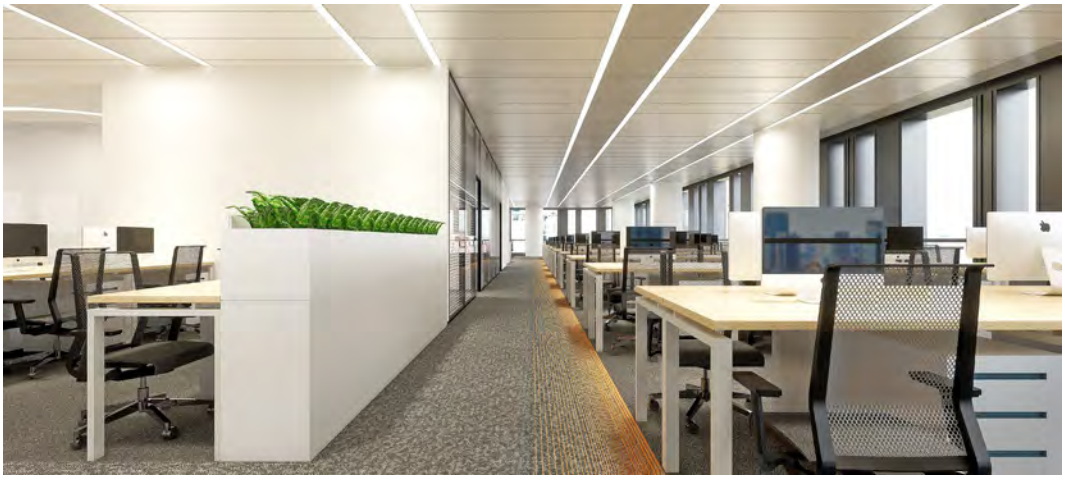


Fig. 4. 24. Office Area

Art and composition also play an important role in the interior design of the office space. Through clever color collocation, light and shadow use, and material selection, you can create a modern and warm office environment. These design elements not only improve the beauty of the office space but also stimulate the creativity and enthusiasm of employees. Reasonable space division and streamlined design are the keys to ensuring the efficient operation of the office space.

In the Internet era, the design of office space also needs to consider the needs of digitalization and intelligence. For example, intelligent conference systems and remote collaboration platforms have become an important part of the modern office space. These facilities not only improve work efficiency but also provide employees with a more convenient and efficient way to work. Therefore, the application of these emerging technologies should be fully considered to ensure that the office space keeps pace with The Times.

This chapter also highlights the sustainability principles in the design process. With the enhancement of environmental awareness, more and more enterprises begin to pay attention to the green design of office space. By using environment-friendly materials and energy-saving equipment, we can not only reduce operating costs but also contribute to environmental protection. Therefore, sustainability will become an increasingly important consideration in the future of office space design.

The interior design of modern offices is a complex and detailed process, which requires a comprehensive consideration of functional planning, spatial characteristics, artistic and composition methods, as well as digital and intelligent needs. Through the

analysis and research of this chapter, this paper provides a valuable reference and reference for future office space design. In the future practice, continue to explore and innovate to create a more efficient, comfortable, and environmentally friendly office space.

Chapter 5. Functions, structure, and composition of furniture (equipment) elements inside the office

5.1. Functional analysis of furniture elements.

In the development of office furniture elements, functional requirements are the first elements to consider, which directly determine the practicality of furniture and the user experience. Office furniture has various functional requirements, covering but not limited to support, storage, mobility, and multi-functional integration.

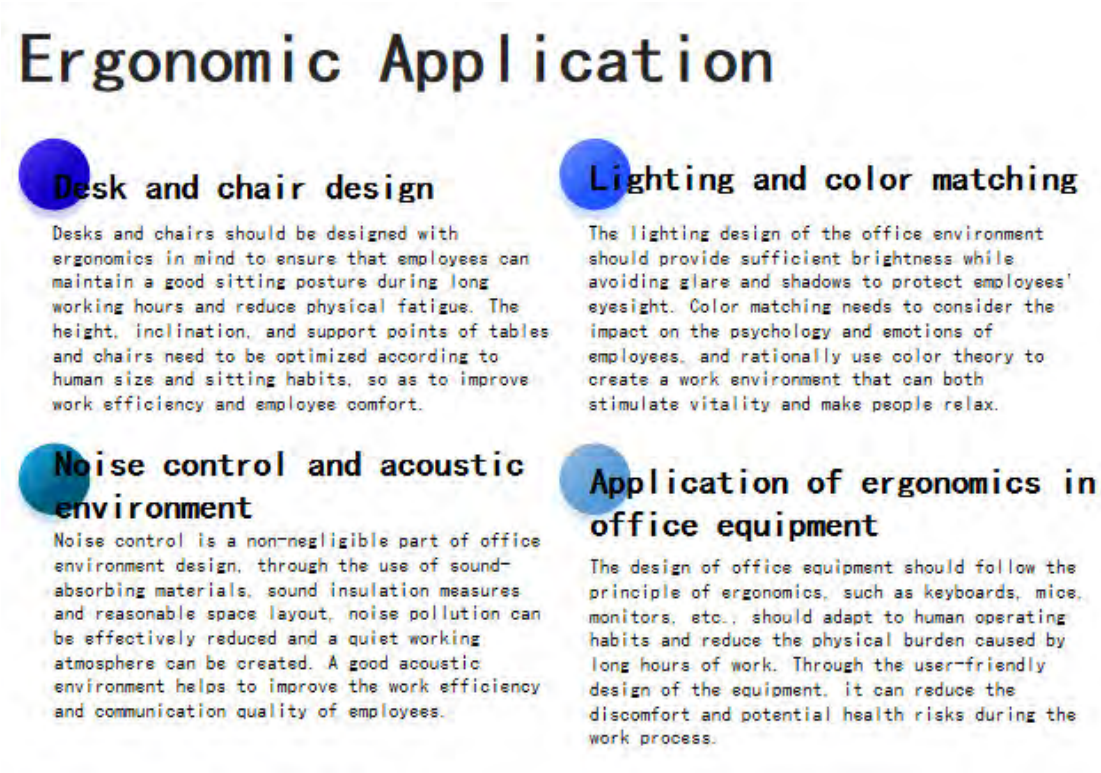


Fig. 5. Ergonomic applications

Supporting this function belongs to the most basic demand of office furniture. Take office desks and chairs for example, they must be able to provide sufficient support to ensure the comfort of employees during long working hours. The height, width, depth, and material selection of the table and chair should be carefully planned to fit

the principle of ergonomics. According to relevant studies, correct sitting posture and moderate support can effectively reduce the load of the lumbar and cervical vertebrae and improve work efficiency. Therefore, in the development process, the use of adjustable height table and chair design, as well as the chair back and cushion that fits the curve of the human body, to meet the supporting function needs to the greatest extent.

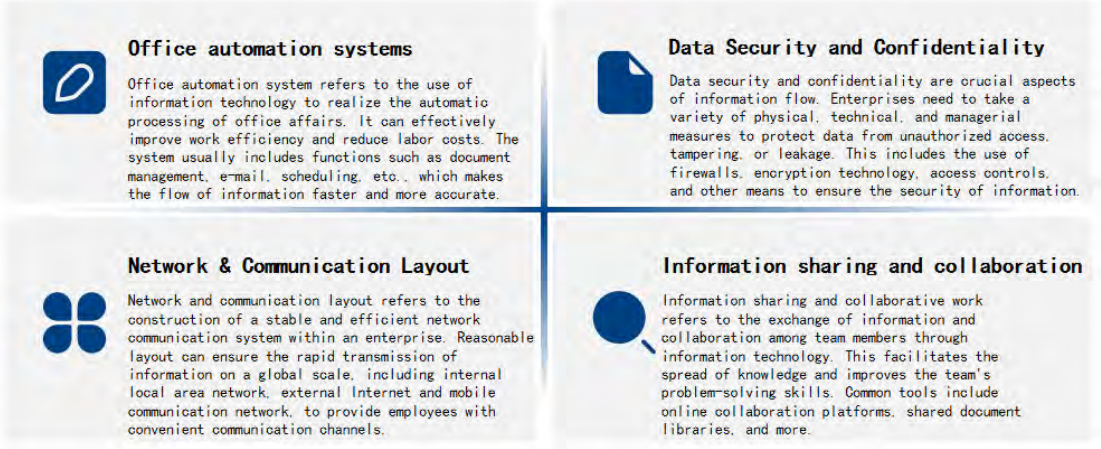


Fig. 5. 1. Security protection、

The storage function is critical to maintaining a clean and efficient office environment. With the diversification of office models, employees need to store more documents, electronic devices, and other personal items. Therefore, the development of furniture elements with powerful storage functions has become an important direction. For example, this article can design desks with drawers, shelves, and hidden storage space to meet the diverse storage needs of employees. The design of these storage Spaces also needs to consider convenience and beauty, to ensure that employees can easily take and put items in the process of use, and does not affect the beauty of the overall office environment.



Fig. 5. 3. Multifunctional integration is also an important trend in the development of modern office furniture

Mobility function is another key feature of office furniture adapted to the modern office environment. With the need for teamwork and project management, employees may need to change their office positions or adjust their furniture layout frequently. So, the furniture element that develops moves easily and can reconfigure appears particularly important. We can use lightweight materials, hidden pulleys, and modular design to improve the mobility and flexibility of furniture. In this way, employees can easily adjust the location of the furniture according to their actual needs to adapt to different work scenarios and team needs.



Fig. 5. 4. Functional requirements are the first element to consider

Multi-functional integration is also an important trend in the development of modern office furniture. With the continuous progress of science and technology, more and more intelligent and automated equipment has been applied to the office

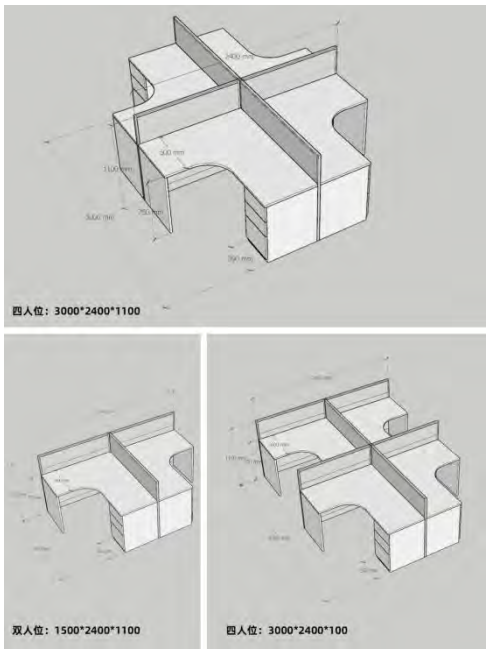


Fig. 5. 5. Structural design

environment. Therefore, in the development of furniture elements, this paper can consider the lighting, audio, charging, and other functions integrated into the furniture, to improve the intelligent level of the office environment. For example, the design of a desk with a wireless charging function and an embedded lighting system with adjustable brightness can provide employees with a more convenient and comfortable office experience.



Fig. 5. 6. Furniture layout and space movement design play a vital role

In the development of office furniture elements, this paper needs to comprehensively consider the functional requirements such as support, storage, mobility, and multifunctional integration, to ensure the practicality and user experience of furniture.

5.2. Structural design and optimization

In the stage of structural design and optimization, the size, shape, and material selection of the designed furniture components should strictly follow ergonomic criteria to ensure the comfort degree and practical performance of office furniture.

In terms of dimension design, ergonomics gives a scientific basis for the setting of furniture size. For example, the height of the desk should be appropriate to ensure that the elbow is bent 90 degrees when operating the computer or writing, to avoid shoulder, neck and back fatigue caused by long use. According to the average height of Chinese adults, the height of the desk is generally set between 70 and 76 cm, a range that meets the needs of most people and ensures a good sitting posture. The design of the office chair also needs to consider ergonomics. The depth, width and Angle of the cushion should fit the natural curve of the human body, and the height of the cushion can be adjusted to meet the needs of employees of different heights.

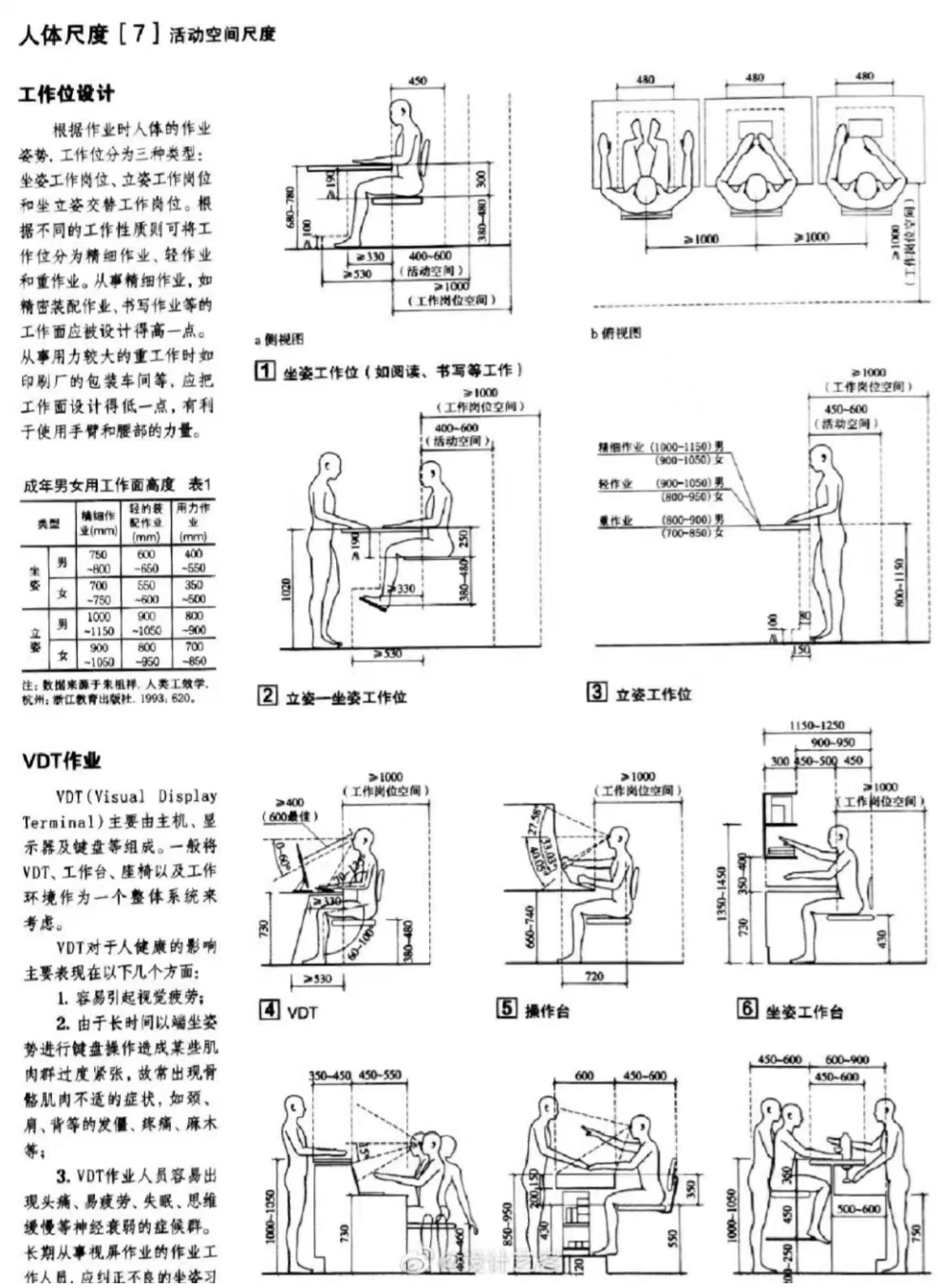


Fig. 5. 7. Ergonomics gives a scientific basis for setting the furniture size

In terms of shape design, the shape of furniture should not only be beautiful and generous but also conform to the principle of ergonomic engineering. For example, the back of an office chair usually uses an S-shaped curve to fit the natural form of the human spine, provide effective support, and reduce the discomfort caused by sitting

for a long time. The edge of the desk should be rounded without sharp corners to prevent accidental injury in the process of use. The shape design of furniture also needs to consider the utilization rate of space to ensure maximum functionality and comfort in the limited space.

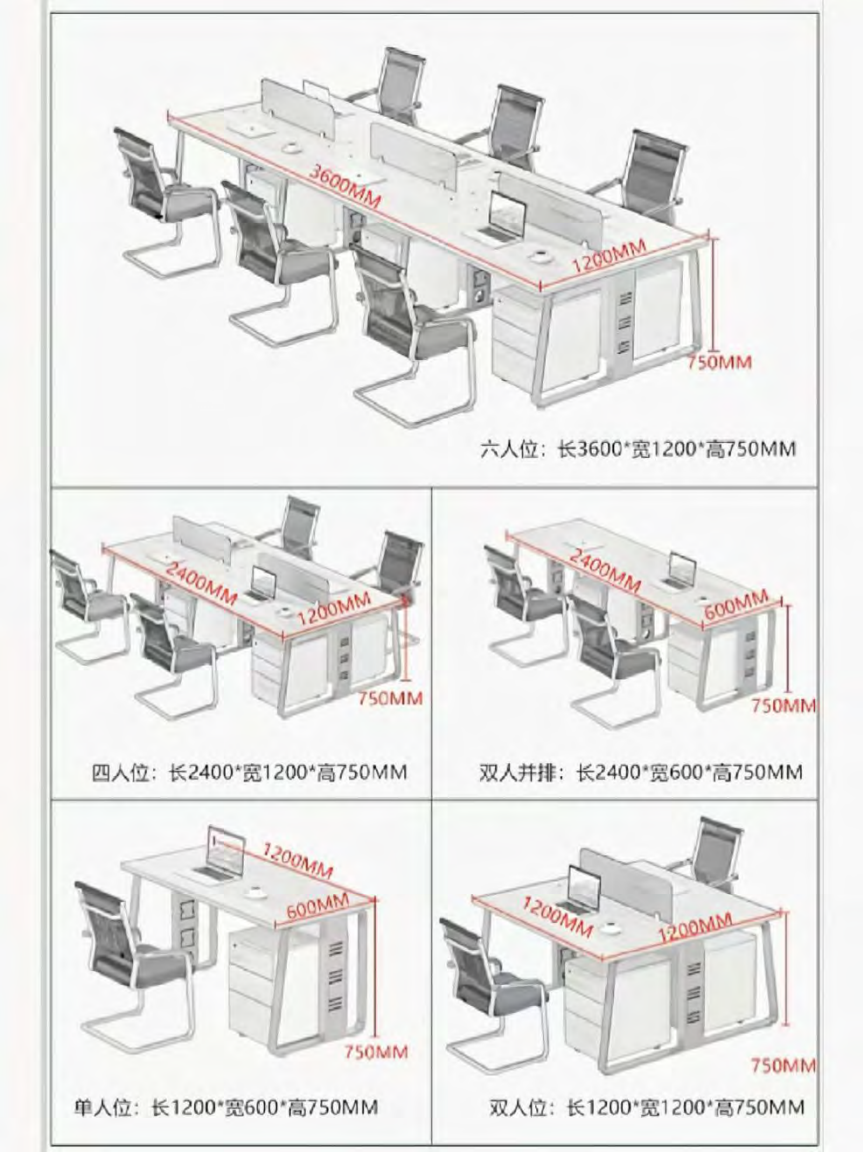


Fig. 5. 8. Office furniture dimensions

Ergonomics also plays an important role in material selection. High-quality furniture materials can not only provide a comfortable touch but also effectively relieve fatigue. For example, the seat cushion and backrest of the office chair are often made

of high-density sponge or memory sponge. These materials have good resilience and air permeability, which can effectively disperse the body pressure and improve sitting comfort. The surface material of furniture also needs to pay attention to environmental protection and durability, if using environmental protection paint and wear-resistant sheets, ensure the furniture will not release harmful substances in the use process, and prolong service life at the same time.

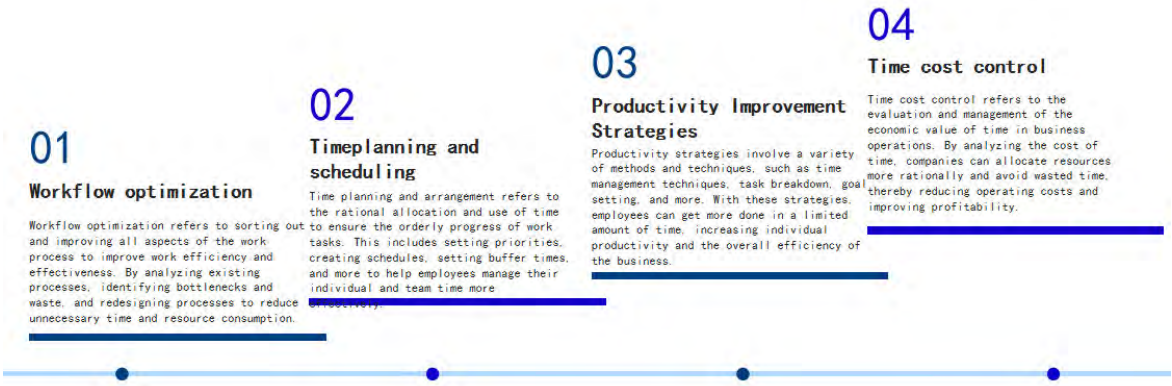


Fig. 5. 2. Time management

In the specific implementation process, the designer also needs to adjust the actual situation. For example, for employees who need to use a computer for a long period, add adjustable keyboard pads and mouse pads to their desks to reduce wrist and arm fatigue. Considering the personal preferences and office habits of different employees, some parts of the furniture can also be designed as adjustable, such as the armrest height and Angle of the office chair, and the height and tilt Angle of the desk, to meet the personalized needs.

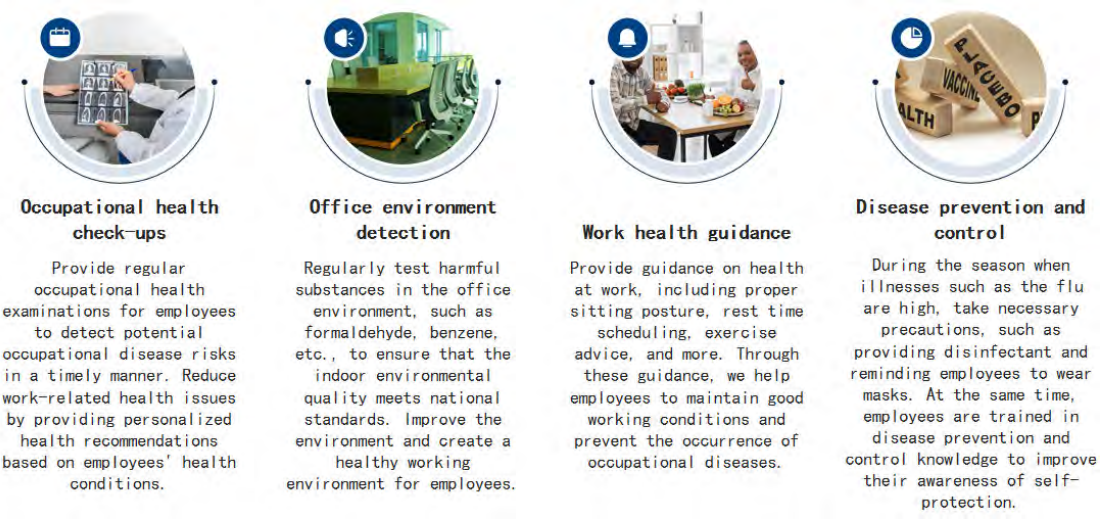


Fig. 5. 3. Health coverage

Structural design and optimization are the key links to ensure the comfort and practicality of office furniture. By strictly following the principles of ergonomics, designers can create both beautiful and practical office furniture to create a healthy and comfortable office environment for employees.

5.3. Compound solution for furniture components

In the comprehensive solution of furniture components, furniture layout, and space mobile design play a crucial role, directly affecting the use efficiency of office space and the comfort of employees. Reasonable furniture layout can not only maximize space utilization but also optimize the workflow and reduce unnecessary waste. For example, by introducing a desk with adjustable height and a flexible combination of partitions, you can easily adapt to changes in team size and project needs, ensuring the effective use of space resources.



Fig. 5. 4. Technology application

Space mobility design is equally important. Plan the office space. Convenient access to public areas and spacious public areas, such as rest areas and discussion areas, can promote communication and interaction between employees, and stimulate innovative thinking. These areas can also be used as places for temporary meetings or project presentations, further enhancing the flexibility and versatility of the office space.

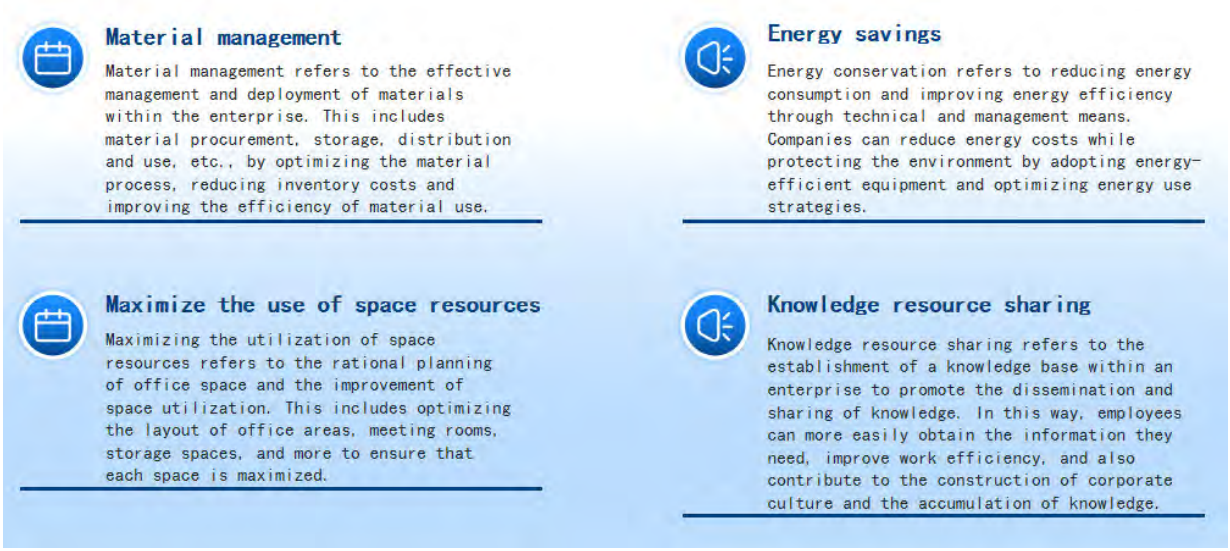


Fig. 5. 5. Resource integration

When choosing the color and material of the furniture, this article also needs to be carefully considered. Color not only affects people's emotions and behaviors, but also can shape the atmosphere of the office space to a certain extent. For example, light blue and green are serene and relaxing for rest areas or long focus areas; yellow and orange for energy and creativity and for creative departments or meeting rooms.

In the material selection, this paper should not only consider the aesthetics and durability, but also pay attention to environmental protection and health. Modern office furniture is generally made of environmental protection plate, solid wood, metal and glass and other materials, these materials not only have good physical properties and stability, but also can effectively reduce the release of formaldehyde and other harmful substances, to ensure the health of employees. Through clever material collocation and process processing, the texture and beauty of furniture can be further improved, to create a more elegant and high-quality office environment.

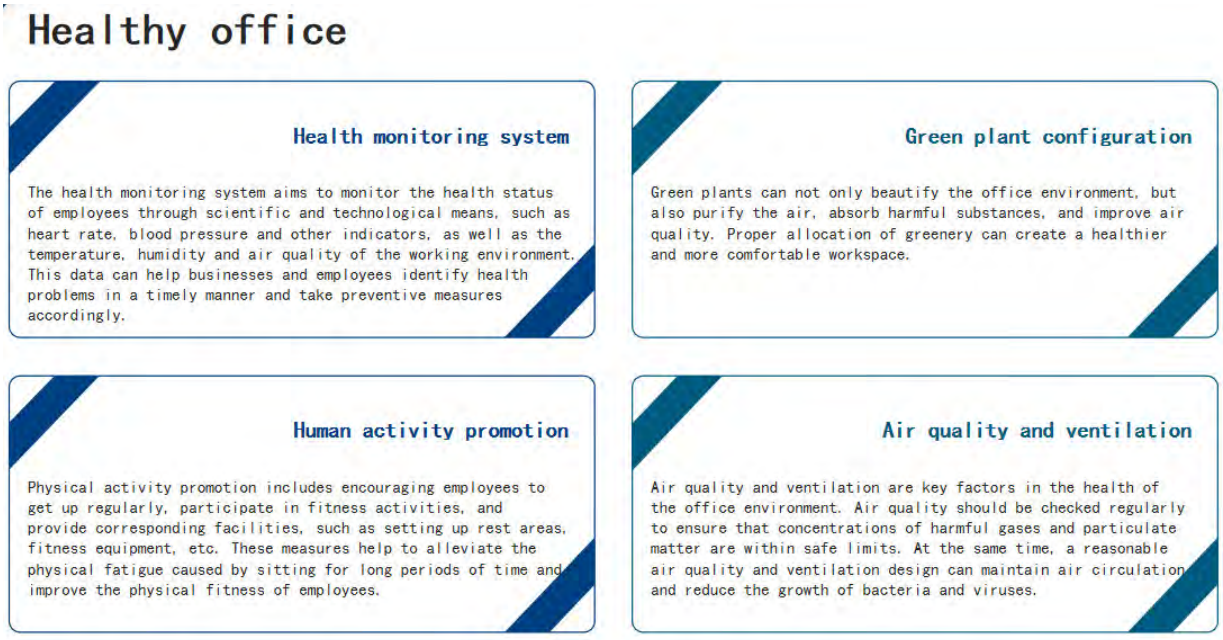


Fig. 5. 6. Healthy office

It is worth mentioning that, with the progress of science and technology and the change of office mode, intelligent furniture has gradually become the new favorite of modern office space. By integrating sensors, technologies such as the Internet of Things, and artificial intelligence, intelligent furniture can automatically adjust environmental factors such as height, light, and temperature to provide a personalized comfort experience for employees. For example, smart desks can automatically adjust the height and tilt Angle according to their height and sitting habits, effectively alleviating the discomfort caused by long sitting posture, while intelligent lighting systems can automatically adjust the brightness according to the indoor light intensity and time to protect the visual health of employees.

In the integrated solution of furniture components, the furniture layout and space mobility design as well as the choice of color and materials are crucial. Together, they constitute the core elements of the modern office space, providing employees with an efficient, comfortable, and intelligent office environment.



Fig. 5. 14. Color not only affects people's emotions and behavior, but also can shape the atmosphere of office space to a certain extent

Working Conclusion.

Summary and Conclusion of the above chapters

Through in-depth analysis and exploration, this article has obtained great theoretical and practical results in the composition criteria of the main space environment of the office space.

In terms of theory, this paper relies on the multidisciplinary theories of ergonomics, environmental psychology, and architecture, and shows the scientific nature of office environment design. The exploration shows that the reasonable space layout, the appropriate functional zoning, and the excellent air quality are the key elements to building an efficient and comfortable office environment. Through the comparison and analysis of typical cases at home and abroad, this paper further summarizes a series of design criteria with universal applicability, such as the reasonable setting of open and closed office areas, the scientific planning of leisure areas and conference areas, and so on. These criteria not only enrich the theoretical system of office environment design but also provide solid theoretical support for the subsequent practical work [21].

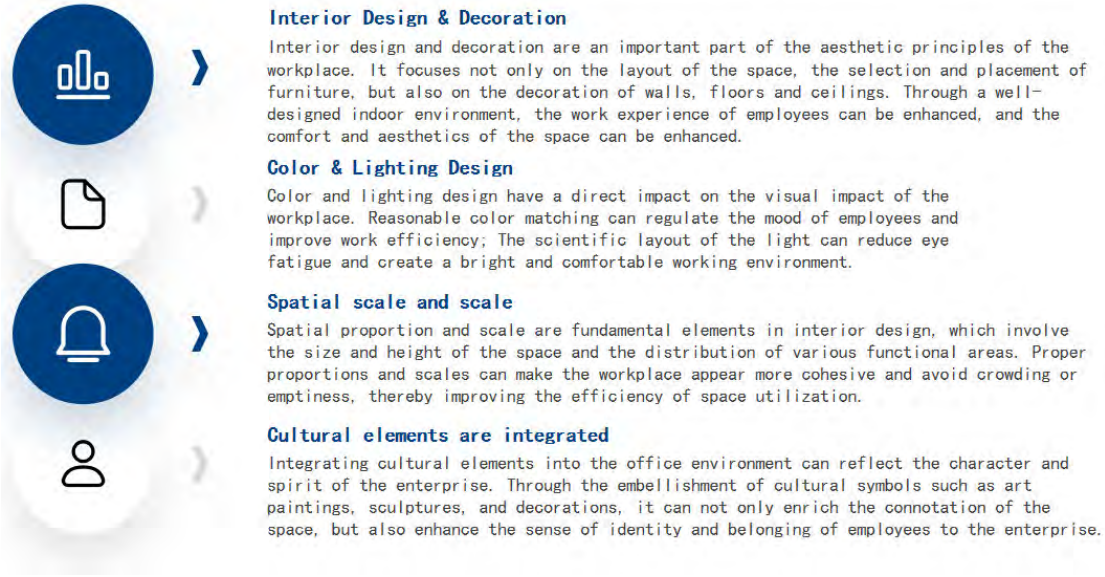


Fig. 5. 7. Visuals

In practice, this article takes Chinese architectural places as an example to analyze the interior design characteristics of modern offices in detail. After field research and

data analysis, this article found that there is generally space congestion and unreasonable functional partition [22]. Because of these problems, this paper puts forward specific improvement proposals, such as optimizing the spatial layout, strengthening the connectivity of functional areas, and introducing green plants to improve air quality. These proposals can not only help to improve the overall quality of the office environment but also can effectively stimulate the enthusiasm and creativity of employees.

In the design level of furniture elements, this article has also obtained remarkable results. The research points out that the functionality, structural design and material selection of furniture have an important impact on the office environment. Therefore, this article proposes that when the design of office furniture, the ergonomic principles should be fully considered to ensure that the size and shape of the furniture and the human body structure match. Furniture layout and space mobile design should also pay attention to high efficiency and convenience, in order to create a smooth office process. Choosing the appropriate colors and materials can not only improve the visual effect of the office environment but also bring a more comfortable and harmonious office atmosphere for employees.

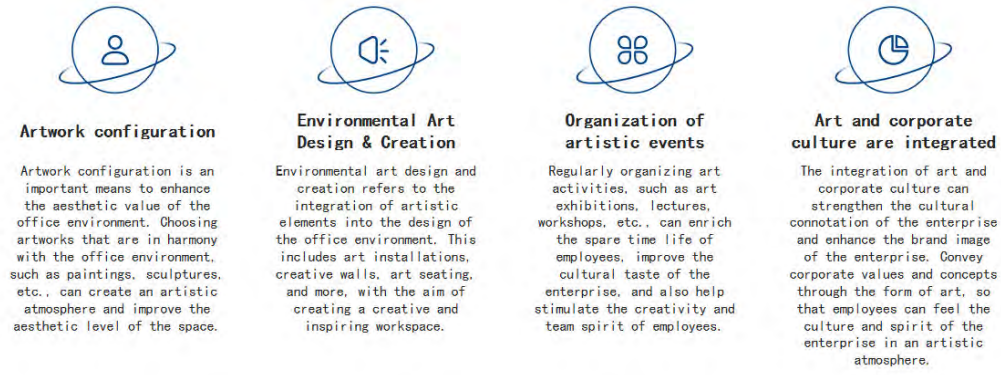


Fig. 5. 8. Environmental art

To sum up, this paper obtains rich theoretical and practical results in the composition principle of the main space environment of the office space. These results not only reveal the scientific nature of the office environment design but also provide specific guidance and suggestions for the subsequent practical work. In the future, with the continuous progress of science and technology and the continuous change of office environment needs, the design criteria and suggestions proposed in this article will be constantly improved and updated, to better serve the interior design and furniture configuration of modern office space.

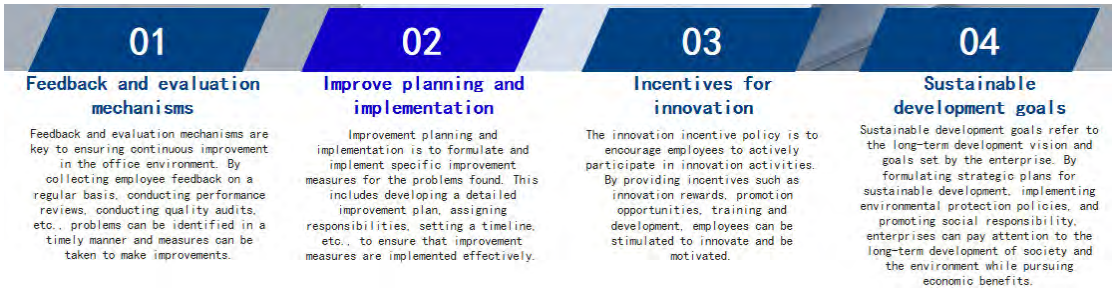


Fig. 5. 9. Continuous improvement

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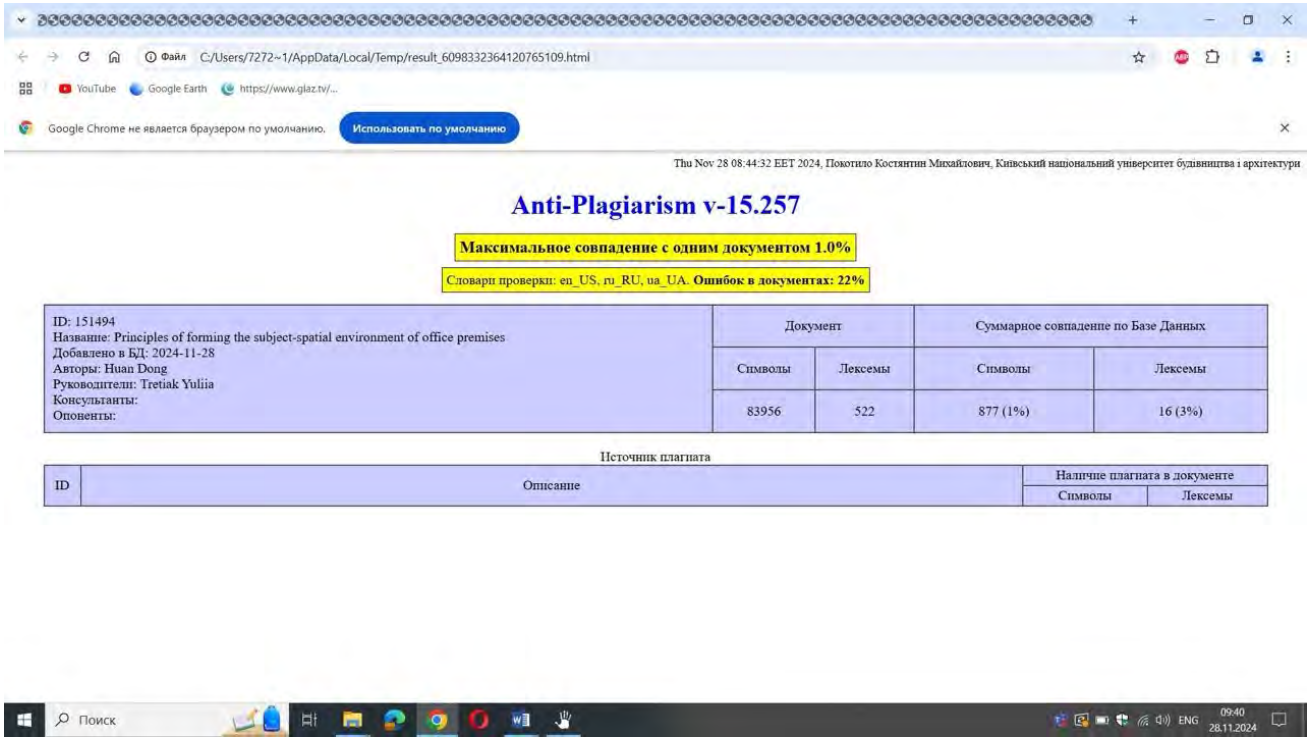
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