

Reshaping the Workplace Ecology of the Turfmarkt Office Building

Hongyi Guo

MSc Strategic Product Design



Master Thesis

August, 2025
Faculty Industrial Design Engineering
MSc Strategic Product Design

Author

Hongyi Guo

Committee

Dr. Laurens Kolks (Chair)
Ir. Willemijn Brouwer (Mentor)
Annemiek Verhoeven (Internship Supervisor, Ministry of Justice and Security)

In collaboration with

Dienstencentrum, Ministry of Justice and Security

Acknowledgement

I would not have achieved today's results without the assistance of others. Therefore, I wish to express my gratitude to everyone who supported me throughout this journey.

First, I want to thank my parents for supporting my studies, which allowed me to travel across the ocean to the Netherlands to begin my research and life. This was the starting point for everything.

To Annemiek, Johan, and other staff in the Dienstencentrum and the Ministry of Justice and Security. Thank you for your trust and the freedom to explore that you have given me. I am very grateful to be able to conduct my research in an environment like the Dutch government ministry. You did not question the feasibility of the research due to language, and everyone, regardless of their English proficiency, actively communicated with me in English. Perhaps sometimes my English was even worse than yours. Also, the kind, timely, and proactive support you provided, including internal communications, documents, weekly meetings, etc., played a crucial role in my research. Without your continuous help and space for communication, I would not have been able to smoothly conduct my research. As I said at the start of the project, understanding the current workspace and imagining the future workspace experience is very appealing, and I can't wait to see how the Turfmarkt workplace develop in the future.

To Laurens and Willemijn, my chair and mentor. Thank you for all the help you provided throughout my project, especially when I felt lost. There have been many times when your guidance has truly helped me out of difficult situations. You teach me a method and logic for solving problems: "how to find a good apple." This is something I had never experienced before coming to the Netherlands. I was always taught a given, pre-determined good result: "What is a good apple?" So, in this graduation project, I am educated on developing my ideas freely and logically without making assumptions for the first time. I would also like to thank you for your detailed insights into my project, especially some visualization suggestions, which enabled us to iterate and optimize the project's findings, insights, and design solutions together multiple times. These professional suggestions were key to my thesis achieving such depth and value. With your help, I've experienced the charm of academic research.

I would also like to thank my girlfriend, Meihuan Xu. Thank you for our continuous discussions over the past six months regarding project issues, especially the most challenging parts like data analysis and framework construction. Although you are not a design professional, you listened attentively, tried your best to understand and thought alongside me. You also constantly encouraged me to move forward, and these encouragements allowed me to maintain my passion and confidence in the project, enabling me to successfully complete such a large and complex project. Without your emotional and research support, this thesis would not have achieved such a satisfactory outcome today.

Finally, thank you to all the friends I made in the Netherlands for your support. Your companionship made me feel as warm and at home in a foreign country as I do back home; it allowed me to experience the power that transcends language and culture. To our joyful times together.

Table of content

	Acknowledgement	3			
	Table of Content	4			
Chapter 1	Introduction	6	Chapter 5	Redesign the Workplace Ecology	59
1.1	Background	7	5.1	Design Goal and Criteria	60
1.2	Context	8	5.2	Design Deliverable	63
1.3	Problem Definition	11	5.3	Concept1: ShareBar (Partition Line + Time Light)	68
			5.4	Concept2: Lightweight Login System	70
Chapter 2	Design of Case Study	12	5.5	Concept3: Decentralized Space Governance	72
2.1	Determine the Case Study Method	13	5.6	Concept4: Adatable Booth	74
2.2	Clarify the Research Question	14			
2.3	Data Collection	15	Chapter 6	Evaluation	76
2.4	Data Analysis	18	6.1	How do the concepts fit into the FlexScape ecology?	77
2.5	Validity, Reliability and Research Ethics	20	6.2	How to ensure people will use the designs as intended?	79
Chapter 3	Discover Turfmarkt’s Workplace Ecology	21	Chapter 7	Summary	80
3.1	Competition and Coordination in Sharing Space	22	7.1	Key Outcomes	81
3.2	Office Role	27	7.2	Limitations	82
3.3	Workplace Resilience	31	7.3	Recommendation	83
3.4	Employee’s Perceptions in the Office	38			
3.5	Key Findings	43		Reflection	85
				Reference	86
Chapter 4	Define the Conceptual Framework	46		Appendix	90
4.1	Workplace Ecology	47			
4.2	Workplace Ecology of Turfmarkt in Theory	50			
4.3	Workplace Ecology of Turfmarkt in Practice	52			
4.4	Conflict between Theoretical and Practical Ecology	56			

1. Introduction

What is the human behavior riddle in the Turfmarkt office building? This chapter introduces the background of this project collaborated with Dienstencentrum, Ministry of Justice and Security, specifically the housing transformation of the Turfmarkt office building where the Ministry is located. Core objectives and specific initiatives are listed, forming the framework and content of the housing transformation. The core problem is preliminarily defined.

- 1.1 Background
- 1.2 Context
- 1.3 Problem definition

1.1 Background

This project is conducted in collaboration with the Dienstencentrum, part of the Administrative Department of the Ministry of Justice and Security. The Dienstencentrum is responsible for managing the accommodation in the North Tower of the Turfmarkt office building, which serves as the primary setting of this research.

In recent years, the Turfmarkt office layouts have been changed to align with hybrid working and government housing policy. On one hand, hybrid working has become the policy after the corona period, transforming the office into a place where colleagues meet and collaborate. On the other hand, the housing policy aims to enhance the sustainable use of office spaces, including an ambition for a 0.5 workplace factor. Various office concepts, such as special floors for silent working and collaboration, have been implemented to support these changes.

Despite these adjustments, users report varied levels of satisfaction. Some find the office conducive to their work, while others complain about privacy concerns, workspace availability, and environmental distractions. However, existing data indicates sufficient workplaces even on busy days. This gap highlights the misalignment between hybrid working and housing policy, the design of the office building, and user experiences. Additionally, discrepancies in feedback from different organizations are also noteworthy.

While existing data presents opportunities to build upon previous insights, it may not fully capture the context's complexity. This research aims to introduce a design-driven approach to explain the complexity and propose change strategies for Dienstencentrum by providing a user-centered perspective and a bottom-up participatory approach to workplace transformation.

Reshuffle

In recent years, the Turfmarkt and Administrative Department (Bestuursdepartement, BD) of the Ministry of Justice and Security have experienced several external changes: the Coronavirus pandemic, the floor restoration, among others. These changes have created considerable unrest in the work environment. Therefore, the Administrative Department (Bestuursdepartement) has developed a future vision for its workplace, highlighting its commitment to an agile, sustainable, and future-proof workplace. The reshaped workplace aligns with the BD's strategic goal and commitment to making Turfmarkt attractive, accessible spaces that support hybrid work, promote employee well-being, facilitate sustainable practices, and enhance governmental efficiency.

In late 2023, the Ministry of Justice and Security initiated a housing transformation in the Turfmarkt 147 office building, referred to as "Reshuffle Turfmarkt." This is an organization-wide initiative to respond to the evolving trend of hybrid working and the organization's growth, aiming to make the office building as efficient as possible. This mainly includes new office arrangements and allocations of the personnels, the implementation of new office concepts in terms of office portfolio, and flexible space usage agreements. Reshuffle, as a core transformative initiative for Turfmarkt housing development, encompasses the main implementations and highlights the organization's vision for future workplace. Therefore, this study will take Reshuffle as the research object and conduct research and discussion around this representative context.

1.2 Context

The Reshuffle is primarily driven by three key factors: the master plans for government office housing 2024-2028, the policy vision for the future of hybrid working within the government, and the response to the organizational growth in the Ministry of Justice and Security.

The Master plan for government office housing 2024-2028 matched the housing demand with the available supply of government offices, which is carried out by the workplace factor. The workplace factor partly determines the number of workplaces (FWTE) for the expected number of FTEs and thus the required amount of office space in square meters. The prevailing workplace factor (0.7-0.9 FWTE/FTE) was established in November 2011 and served as the basis for determining the size of the office portfolio. In July 2023, a new workplace factor of 0.5-0.7 FWTE/FTE was decided in the 2024-2028 master plans, meaning that 0.7 FWTE/FTE will be the new standard.

This workplace factor was established based on the experiences gained with the current and expected future use of offices because of hybrid working. In the context of hybrid working, most employees expect to come to the office for about 50% of their working time. The average vacancy rate in the office portfolio is structurally 65% (approximately 1.3 million m²), involving an amount of approximately 500 million euros per year. Considering the importance of the offices' sustainability and efficiency, the new norm could help to counter the structural vacancy in government offices, and the office space will become available to accommodate personnel growth, reducing unnecessary CO₂ emissions and spending of tax money.

The government's policy vision for the future of hybrid working propels Reshuffle from the perspective of office functions and roles, aiming to establish a new

framework of office space utilization. It reveals the evolving nature of where and when employees divide their work and tasks between remote and office workplaces. The vision identifies offices as crucial hubs for face-to-face interactions that foster creativity and maintain organizational culture and cohesion.

With hybrid working, employees primarily utilize office spaces for collaboration, meetings, and social interactions rather than individual, concentrated tasks, which they often perform remotely. Consequently, the policy necessitates a transformation in the function and layout of government offices by underscoring the need for flexible office configurations capable of accommodating hybrid attendance patterns and diverse work activities, to inform the Reshuffle Turfmarkt.

The Reshuffle responds to the policy vision by introducing more dynamic shared spaces, such as silent and project floors, and a company restaurant, to better align with hybrid work demands. Facilities and infrastructure have also been adopted, including the installation of Qabin (phone booths) on work floors, upgrading meeting rooms with Webex boards, and implementing the Workspace Management System (WMS). Collectively, these strategic initiatives shape the reshuffle by setting strategic imperatives for future-proofing government offices, directly influencing how spaces are designed, allocated, and managed at Turfmarkt.

Concurrently, the Ministry of Justice and Security has witnessed considerable expansion, characterized by a rise in personnel numbers and the necessity to incorporate additional organizational units. To manage this growth, the Reshuffle entails deliberately reorganizing the current office space to create additional capacity for the newly added organizational units.

1.2.1 Redistribution

The redistribution of Director-Generals (DGs) and clusters within the Administrative Department (Bestuursdepartement) is the core initiative of the Reshuffle. The redistribution aims at balancing available space with organizational growth, implementing the revised workplace factor standard of 0.7 FWTE/FTE. The number of floors allocated to each DG and cluster is determined by their current Full-Time Equivalent (FTE) and a standard workplace factor of 0.7, divided into 0.5 for desktop workspace and 0.2 for communication workspace. The 0.5 for the desktop workspace determines the floor numbers assigned to the organization, while the remaining 0.2 for the communication workspace from all organizations is combined to form shared floors. For illustration, the Directorate-General for the Administration of Justice and Law Enforcement (DGRR) comprises 313 FTE; consequently, the total desktop FWTE amounts to 156.5 under a 0.5 standard, equating to 2.0 designated floors.

The redistribution was guided by several principles. Each cluster or DG received dedicated floors as a primary workplace. Shared floors, such as silent and project floors, were established to supplement organizational spaces, promoting flexible workspace utilization to meet diverse work needs. When allocating floors, Floors were allocated to minimize unnecessary relocations, prioritizing stability for teams with specialized facilities or equipment already installed. DGs and clusters expected to collaborate closely or even merge in the foreseeable future were assigned adjacent floors.

For DGs and clusters, the observable changes resulting from the redistribution include a reduction in the number of workspaces and an increase in cross-organizational sharing of workspaces. Most organizations have encountered varying degrees of reduction in the number of workspaces to align with the standard of a 0.7 workplace factor. Accompanied by the decrease in the allocated floor space, organizations that do not occupy the full number of floors will be required to share space on the same floor with other organizations.

1.2.2 Office portfolio

Accompanied by the Reshuffle, a variety of office concepts have been implemented with the goal of creating a physical work environment where the Ministry of Justice and Security organizations can apply the flex standard 0.7 and employees are optimally supported in their hybrid work activities, including zoning on the floors for quiet to silent work and for collaboration and meetings, which allows employees to have floors jointly used by different organizations, refurbishing of the company restaurant into a casual open plan area of cooperation and communication, deployments of new space concepts for individual videoconferencing (Qabin), live or hybrid meetings, phone booths, landing spots etc.

Specifically, the organization's dedicated floors serve as the default setting for the work floors, to which those new space concepts are configured to varying degrees. The silent floor is intended for individuals desiring an environment conducive to concentration, while the project floors are designated for collaborative efforts among multiple individuals on projects and tasks. The company restaurant has been restructured to offer additional options for work and meeting interactions, and the meeting floor provides a formal place for meetings and consultations.

The DGs and clusters designated floors constitute the primary component of the work environment, acting as the core workplace for employees. These floors adhere to the default workplace configuration, featuring a significant number of enclosed desktop cubicles, open plan desktop workspaces located in the four corners of the floors, two or three meeting rooms, and a lounge area for social interaction.

N14 is designated as the silent floor, which is designed for working quietly and landing with a calm appearance and atmosphere. The configuration closely resembles the default setting, with a large proportion of enclosed desktop cubicles, except that the corners have been transformed into landing spots instead of conventional open plan workspaces. The intention of landing spots is to provide a space for individuals who require temporary desktop workspaces between meetings and consultations.

N18 and N23 have been designated as the project floors. These floors are designed to enhance collaboration by reducing the subdivision of workspaces and offering more open-plan workspaces and larger meeting rooms. The proportions of collaborative workspaces, open-plan desktop workspaces, and enclosed desktop cubicles are approximately evenly distributed across the floor.

1.2.3 Flexible space usage framework

In order to better utilize the updated spaces flexibly, the government has established a flexible space usage framework, including agreements on the use of BD work environments and technical tools for flexible space usage that are expected to work together for an efficient and convenient space experience.

Agreements on the use of BD work environments

In response to adjustments, policies related to space usage have been instituted to help employees make the most use of the office workspaces. This initiative is encapsulated within the guiding principle: “We use our working environment together, flexibly, consciously, boundlessly, sustainably, and hospitably.” The policy states that fixed workplaces do not exist, save for certain exceptional circumstances, thereby underscoring that the designated work floor of DGs and clusters to which the employee belongs is the priority area. Furthermore, it advocates for employees to consciously select a work environment that aligns with their work, i.e., concentrated work on a silent floor, video/telephone meetings in a Qabin, or collaboration on project floors, and to spread out more to mitigate congestion within the office space.

The policy advocates that employees actively communicate with colleagues regarding the shared work environment when using the workspace. In instances of absence exceeding two hours, employees are required to log out and ensure that the workspace is empty and clean.

Technical tools for flexible space usage

The Reshuffle also introduced the Workspace Management System (WMS) to monitor the use of the Turfmarkt building in real time. WMS allows users to easily and quickly find an available workspace or meeting room with real-time occupancy on the floor plan. The workspaces on the silence and project floors can be reserved through WMS.

In the design intention, employees consciously choose workspaces based on their work activities in the office. When the need for specific functional workspaces arises, they check the WMS system to locate available workspaces and clean and log out of their current workspace. Thus, the WMS and the agreements create an efficient sharing mechanism in the office.

1.3 Problem Definition

The hybrid office is a dynamic space where employees constantly navigate digital and physical environments for various work activities. Their interactions, whether with colleagues or within the digital or physical workplace, are not always seamless, demonstrating the misalignment between user experiences and workplace design. To address it, it's important to deeply understand user behaviors and identify underlying needs as the basis for targeted design interventions.

Organizational differences add another layer of complexity, their needs and work patterns vary yet are subject to standardized office design and policies, leading to contrasting feedback. While mere large-scale research may have difficulty accounting for the nuances, generative methods can capture diverse perspectives and uncover context-specific user needs. It provides rich foundations for pinpointing why current designs fall short and how they can be improved.

The government's approach to office governance may be at the heart of the problem. Their priority on standardized procedures and policies would still be rooted in the organizational culture even within flexible layouts (Nanayakkare et al., 2022). However, workplace interactions are fluid and dynamic, shaped by human behavior rather than standards. This gap between standardized governance and the dynamic nature of employee-environment interactions makes it difficult to support users' work.

2. Design of Case Study

This chapter presents how the research is designed by adopting a case study method characterized by diversity and flexibility. Yin (1989) in "Case Study: Design and Methods," points out that case study design refers to "the logical sequence that links empirical data to the initial research questions and research conclusions." Combining with the research setting and Yin's case study methods, this research confirms the design of this case study from five aspects: the applicability of the case study, case study questions, data collection, case data analysis methods, and the reliability, validity, and ethics of the case study.

2.1 Determine the Case Study Method

2.2 Clarify the Research Question

2.3 Data Collection

2.4 Data Analysis

2.5 Validity, Reliability, and Research Ethics

2.1 Determine the Case Study Method

Yin describes a case study as facilitating researchers to "reveal the interaction of multiple factors, thereby producing the uniqueness of the phenomenon under study." A case study could accommodate diverse research designs and multiple data collection techniques from different disciplinary perspectives, which is a preferable strategy for answering "why" and "how". Starting from the purpose of this study, firstly, since the implementation of "Reshuffle," the peak occupancy rate of Turfmarkt has not reached saturation, yet employees' complaints about the space manifested in multiple aspects, especially crowding issues, based on the statistical data. This puzzled the Dienstencentrum—what is happening here? Why do users feel dissatisfied? What are the real needs of the users? A series of questions awaits research to unravel. Secondly, the "Reshuffle" is still ongoing; the workplace factor will need to be further reduced to 0.5 to 0.3 according to the government's future vision. How to downsize the space while keeping employees satisfied? Thirdly, the increasingly severe "camel hump" situation on busy and quiet days have resulted in the insufficiency of the workspaces in the compressed office to be unable to accommodate people attending on the same day. How to average the daily occupancy rate throughout the week? To reveal and explore the two main research questions of "why" and "how" in the "reorganization," the case study method can help to achieve the research objectives.

In addition, Rist (1982) made three requirements for problem characteristics suitable for the case study method: 1. seeking a holistic understanding of events, contexts, or phenomena; 2. applying inductive logic to study particulars and then deriving general rules; and 3. the case occurs in a natural setting. This study selects the "Reshuffle" as the object of the case study, aiming to fully reproduce it

from the causes, development, and outcomes to obtain a holistic understanding; furthermore, the case study can incorporate the behaviors, attitudes, and needs of various stakeholders, especially users, into the construction of the case, and summarize and derive general rules of interaction between users and office space; finally, the Reshuffle has been widely implemented and sustained in the Turfmarkt office building for a period of time rather than being an experimental project for small-scale spaces. Therefore, the Reshuffle, as the object of the case study, meets the applicability requirements of the case study method.

2.2 Clarify the Research Question

2.3 Data Collection

This case study obtains data from multiple sources to capture the complexity and wholeness of the case. In terms of data types, Yin suggests that researchers use six types of data, including literature, archival records, interviews, direct observation, participant observation, and physical artifacts; in terms of data acquisition methods, Rist proposes three primary data collection methods: observation, interviews, and document collection. This study adopts the idea of “data converging through triangulation” in data collection to form a coherent “chain of evidence” to ensure the reliability and validity, collecting a variety of research materials through interviews, documentary collection, and field observation to form the database.

concerning the new work environment. This helped clarify how the Reshuffle operates in practice. The discussions centered on four core themes: overall experience of new workplaces, collaboration in shared spaces, expectations and future improvement needs, and how well the hybrid office environment is supported. The study organized and coded 23 interviews as shown in Figure 2-1.

Why does the redesigned office environment lead to user dissatisfaction and crowding issues, even when occupancy data suggest adequate capacity?

2.3.1 Document collection

This study uses interview materials, surveys, master plans, policy, quantitative data, etc, provided by the Dienstencentrum as the primary data sources for the case study, and classifies and numbers the collected documents as follows.

Interviews

In early 2025, Dienstencentrum conducted targeted interviews with employees in the DGs and clusters to assess the implementation of the Reshuffle and the use of the workplace. Relevant directorates and corresponding representatives were selected for each DG and cluster. The interviewees received a list of themes and topics to be discussed in the interview for preparation. The interviews were facilitated by client managers from Dienstencentrum, assisted by a minute-taker to capture the key points.

The interviews aimed to gather insights into the experiences and needs of various directorates within the DGs and clusters

No.	Date	Directorate	Floor	Data Number
1	2025-01-07	DGSenB	12	Interview1,DGSenB
2	2025-01-08	DGRR-DAO	19	Interview2,DGRR-DAO
3	2025-01-08	DGM	25	Interview3,DGM
4	2025-01-08	DGM	24	Interview4,DGM
5	2025-01-09	PPAC	17	Interview5,PPAC
6	2025-01-13	DGM	24	Interview6,DGM
7	2025-01-14	DPenO	17	Interview7,DPenO
8	2025-01-14	DGRR	19	Interview8,DGRR
9	2025-01-15	DGM	24-25	Interview9,DGM
10	2025-01-15	DGRR	19	Interview10,DGRR
11	2025-01-15	DO	2	Interview11,DO
12	2025-01-22	DGSenB	13	Interview12,DGSenB
13	2025-01-22	NCAB	25	Interview13,NCAB
14	2025-01-22	DGSenB	12	Interview14,DGSB
15	2025-01-23	DGPenV	21	Interview15,DGPenV
16	2025-01-23	DGSenB	12-13	Interview16,DGSenB
17	2025-01-23	DGSenB	13	Interview17,DGSenB
18	2025-01-27	DFEZ	12	Interview18,DFEZ
19	2025-01-27	DGSenB	13	Interview19,DGSenB
20	2025-01-28	DC	16	Interview20,DC
21	2025-01-28	DH&F	15	Interview21,DH&F
22	2025-01-28	DEA	8	Interview22,DEA
23	2025-01-31	DI&I	24	Interview23,DI&I

Figure 2-1 Interview Data Overview Table

2.3.2 Field observation

Field observation is a research method that obtains experiential data through purposeful on-site recording. Its essential characteristics are that the researchers directly perceive and interpret human behavior, social interactions, and cultural phenomena in a real workplace setting through sensory or technical means. This method emphasizes presence and contextualized cognition (Ciesielska, M., Boström, K.W., Öhlander, M., 2018), requiring researchers to maintain methodological rigor while empathetically experiencing the meaningful world of the research subjects (Michael, 2007). Based on further data collection and triangulation strategies, this research employs field observation to supplement data that other research methods cannot fully capture. In particular, practical information such as the actual situation of

users utilizing the workplace and the office layout and functional performance of the office needs to be captured, recorded, and understood through immersive field observation. This allows for an examination of the data unearthed from the text collection and the subjective meaning construction behind them, facilitating a dialogue between objective reality and subjective reality.

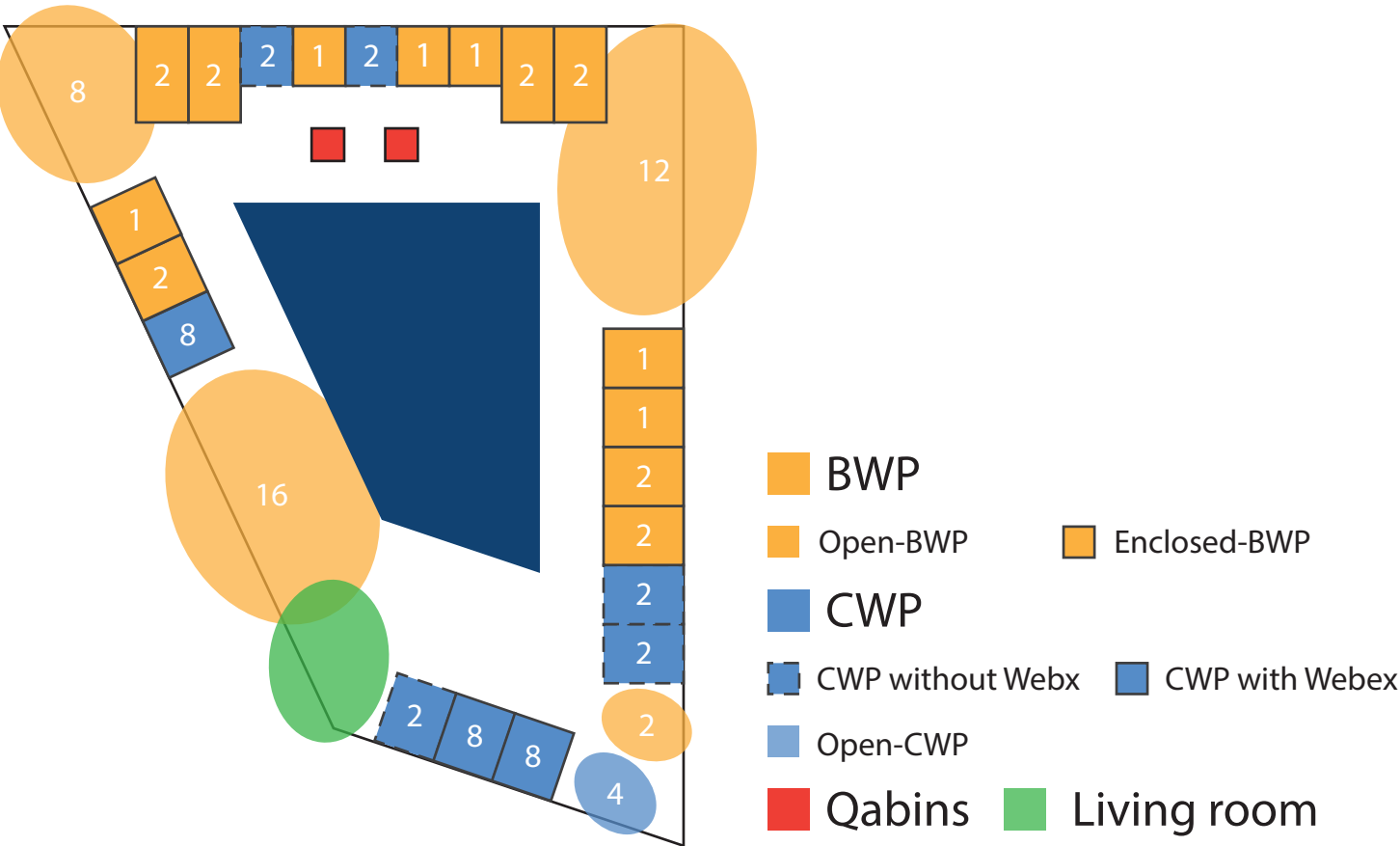


Figure 2-2 Floor plan of N16

2.3.3 Informal interview

Interviews refer to a method of collecting research data through conversation with research subjects. Researchers obtained legal access to the Turfmarkt office building through a six-month graduation internship in the Dienstencentrum and carried out thematic informal interviews with users in the building and employees from portfolio management who run the office workspace, identifying and focusing on issues related to the use of office space, gaining a deep understanding of the research problems. Informal interviews were chosen as one of the primary data collection methods. On one hand, during the initiation and implementation of the Reshuffle, Dienstencentrum had already conducted comprehensive formal interviews with employees, and the resulting data was sufficient to meet the research needs. On the other hand, employees had become tired of these formal interviews, and it might not be easy to obtain valuable information through formal interviews again. As a result, informal interviews are more likely to yield sincere and valuable information.

2.4 Data Analysis

This research employs the coding analysis method for the collected data. Coding is an analytical process used to identify similarities and recurrences in concepts within data (Chun et al., 2019), which can be understood as short labels of information categories constructed by researchers during their interactions with data. This is an important part of the grounded theory, where researchers' interactions with data are crucial for theoretical development. Charmaz (2012) interprets coding as: Something kinesthetic happens when coding. The "kinesthetic" mentioned here refers to researchers developing new understandings of data and generating new concepts. Chun et al. (2019) explain coding as the key link between data collection and theory development; Strauss and Corbin (1990) describe three coding categories used in grounded theory: open, axial, and selective coding. Their coding method is frequently used across various fields and has achieved sound promotion effects. The validity and scientific nature of their data analysis method have been recognized and verified by existing research. Therefore, this research adopts their coding concept to analyze and interpret research data through open, axial, and selective coding.

2.4.1 Open coding

Open coding is the first step in data analysis. Researchers carefully analyze the data, looking for similarities and differences, identifying meaningful words and phrases, and generating as many codes as possible (Creswell et al., 2018). Specifically, researchers repeatedly review the 23 interview transcripts, coding the data word by word and sentence by sentence. At this stage, researchers should keep an open mind, trying to understand the meaning expressed in the text to seek the native concepts of the research subjects rather than the researcher's own concepts. In practice, researchers adhere to the principle of being as meticulous as possible until saturation is reached.

2.4.2 Axial coding

Axial coding is established based on open coding. Heath and Cowley (2004) describe the process of axial coding as putting together the pieces of the data puzzle, identifying ideas, abstract concepts, and theories that emerge from data. Axial coding involves clustering the codes formed during the open coding process into categories centered around core concepts, aiming to refine, modify, and streamline the codes (Creswell et al., 2018). This enables the discovery and establishment of various connections between conceptual categories, revealing the organic relationships among different data records to achieve a precise and comprehensive explanation of the phenomenon (Hobson et al., 2004). An example of the axial coding process is shown in Figure 3-3.

2.4.3 Selective coding

At this stage, data-based theories are generated through integrating, constructing, and formulating research results, achieving the goal of grounded theory research analysis (Birks & Mills, 2015). Glaser (1978) points out that the significance of selective coding lies in the fact that the initial coding that "fractured" the data, but these fractured data are "rewoven into an organized whole theory" at the final stage of coding. Chun Tie et al. (2019) explain that this coding stage constructs a storytelling through interpretive statements that connect categories and generate theoretical propositions. In this process, the researcher returns to the research questions: a set of well-developed categories that are systematically interrelated through statements of relationship to form a theoretical framework that explains what is happening here. Four main categories were identified: Competition and Coordination in Sharing Space, Office Workplace Role, Workplace Resilience, and Employees' Perceptions in Hybrid Office. Finally, the conceptual framework of workplace ecology is further defined based on the explanation of facts.

Original Data (Excerpt)	Open Coding
Negatief: het is vrijwel onmogelijk om als team bij elkaar te zitten.	
Meer aanlandplekken (grote tafels, minder kasten). Dus meer aandacht op sociale interactie op kantoor, want dat is en wordt steeds belangrijker. Hier is nu weinig ruimte voor.	Insufficient workspace limits employee's informal social interactions
Kasten weg en meer aanlandplekken voor sociale interactie	
...	...

Figure 2-3 Example of open coding process

Categories	Themes	Concepts
	Share space between organizations	Vlek Negotiation and Communication
Competiton and coordination in sharing space		Tools provided for Sharing Space
	Share space at the individual level	Workspace Occupancy
		Flexible Sharing Space Mechanism
...

Figure 2-4 Example of axial coding process

2.5 Validity, Reliability and Research Ethics

2.5.1 Validity and reliability

This study addresses reliability and validity from four aspects: internal reliability, external validity, internal validity, and construct validity, to ensure the reliability and validity of the case study. First, the reliability refers to the quality of the study (Goetz et al., 1984). This study provides the reliability of the case study by clarifying the research questions, using multiple data sources, and standardizing data analysis. Second, external validity concerns the generalization of the research (Creswell, 1994), that is, whether a specific set of results can be extended to other cases to form a broader theory (Yin, 1989). This study ensures external validity by introducing another external researcher to achieve a coding repetition of over 90% and ensure no new codes emerge. Third, internal validity refers to whether the research provides a concrete answer to the research questions and whether the conclusions can explain the phenomena of interest. This study ensures internal validity by continuously engaging with the literature during data analysis and analyzing competing theories (Maha, 2002). Fourth, construct validity concerns whether the research findings or conclusions are scientifically valid. This study confirms construct validity through collecting multiple data sources and iterative refinement in the “database” until theoretical saturation is reached. This study continuously verifies and confirms findings with internal experts to ensure construct validity.

2.5.2 Research ethics

The ethics of case study refers to the ethical principles and standards to be followed when conducting case studies. These principles and norms involve protecting the rights of research participants, ensuring transparency and fairness in the research process, and safeguarding the credibility and authenticity of research results. This case study adheres to basic research ethics, respects the rights of respondents, complies with the confidentiality requirements of Dienstencentrum, including but not limited to privacy protection and personal information confidentiality; maintains honesty and integrity, avoiding any form of data manipulation or fabrication; ensures that research participants fully understand the purpose, process, and risks of the study and participate voluntarily; and provides feedback and shares research results with the subjects.

3. Discover the Workplace Ecology of Turfmarkt

Based on the case study design, this chapter delves into and richly reconstructs the workplace ecology at Turfmarkt, especially in the context of the Reshuffle. It primarily answers the research question: “Why does the redesigned office environment lead to user dissatisfaction and crowding issues, even when occupancy data suggest adequate capacity?” The findings are reported in four categories: “competition and coordination in shared spaces,” “office workplace role,” “workplace resilience,” and “employees’ perceptions in the office.”

3.1 Competition and Coordination in Sharing Space

3.2 Office Workplace Role

3.3 Workplace Resilience

3.4 Employee’s Perception in the Office

3.5 Key Findings

3.1 Competition and Coordination in Sharing Space

The Reshuffle has fundamentally transformed how employees utilize the office workplace. Under the previous standard of 0.7 to 0.9 workplace factor, employees, despite the principle of flexible workspace usage, were provided with adequate workspaces and had developed a tendency to adhere to their accustomed areas with an independent, stable workspace as their comfort zon.

“Two fixed days have been agreed upon to come to the office. On other days, there are fewer opportunities to find a workspace due to other teams. You miss your familiar floor at such times, because we are creatures of habit (same workspace, etc.).” Interview 16, DGSenB

The reduction of workspaces and the overlap of the organization’s dedicated floors resulting from the Reshuffle have changed the original situation. Different organizations assigned to the same floor and employees within the same organization are compelled to share space due to the constrained workspace capacity. This is a process of stepping out of the comfort zone, during which employees exhibit some competitive and cooperative behaviors while adapting to this new pattern of using the office workplace.

3.1.1 Share space between organizations

At the policy level, there is no practical guidance on sharing space between organizations (i.e., it simply assigns two organizations or teams together on the same floor and leaves it up to the organizations to coordinate on their ways of sharing space), which leads to various circumstances in practice.

“Vlek”

On one hand, most organizations and teams value having their own exclusive area, a dedicated floor or area with a clear spatial boundary and identity is highly required to assert their “territorial sovereignty” over the space. Employees have a strong sense of the exclusive area; they feel unwelcome and uncomfortable sitting in another organization’s area, and some even put sticky notes on the rooms to indicate their ownership of the space. As a result, “vlek” emerged organically. “Vlek” is an emic term used by the user and Dienstencentrum to describe a specific area naturally formed where close colleagues and team work together. It will be used directly in the following sections of this study.

“We are usually in a spot and preferably you want to make that known by a note or other means (on day X and Y ACF is here).” Interview 16, DGSenB

The “vlekken” are subdivisions of the organization’s dedicated floor, primarily based on a team or a highly collaborative group. Some teams, in particular, even use distinctive items such as pictures to assert their “territorial sovereignty.” Unlike the dedicated floor, the spots aren’t defined by policy but are instead gradually formed through the usage patterns of the individuals involved.

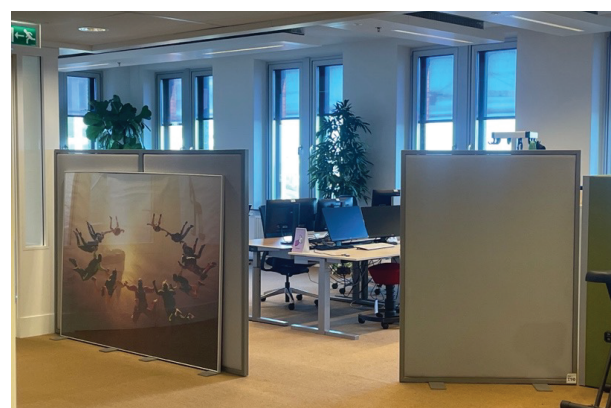


Figure 3-1 “Vlek” of a team

These vleks are the core exclusive area for teams or organizations, and they can accommodate most colleagues in most scenarios. However, the workplace factor for these spots is still 0.5 to 0.7, meaning they can’t accommodate employees when their attendance reaches a certain level. Employees then overflow to the same floor to search for a workspace. If no workspace is still available, they overflow to shared floors.

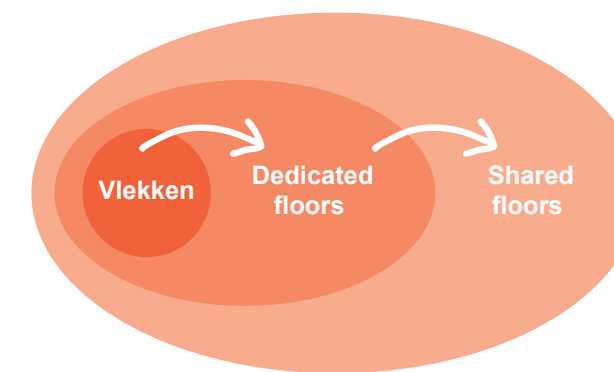


Figure 3-2 Workplace spillover

Policy-wise, a highly flexible space sharing should be implemented. Still, these vleks revert to the territorial attributes of traditional fixed workspaces, thus reducing efficiency. From the employees’ perspective, their primary reason for coming to the office is social and collaborative interactions, so they naturally tend to cluster together in a familiar place, as humans are creatures of habit. At the same time, the setting of organization-dedicated floors and a large proportion of enclosed office spaces symbolically continues the tradition of fixed workspaces, reinforcing employees’ territorial tendencies when using the workspace.

Negotiation and Communication

On the other hand, the absence of policy and the encouragement of organizations to find their own way to manage the shared space made negotiation and communication the only solution for successful inter-organizational sharing of space. However, there is a notable challenge in initiating communication in shared spaces between organizations, and certain organizations do not engage in any negotiation for shared usage. In the absence of communication between organizations, most scenarios result in a simple floor division, whereby the organizations partition the area for their exclusive use. Sometimes, even if the communication is initiated and an agreement is made, sharing space between organizations is still challenging because of misconduct, such as one party not following the agreement and excessively using the other party’s space and facilities. These behavioral frictions always cause displeasure on a private level.

“Sharing spaces with the NCAB is not going well. As mentioned, NCAB claims spaces and there are regularly unpleasant conversations about this.” Interview 3, DGM

“At N21, LIEC has claimed a corner and a fairly large number of workspaces. This was done without consultation. There is also little communication between DGPenV and LIEC. LIEC has put up stakes with notes (these workspaces belong to LIEC).” Interview 15, DGPenV

At the same time, negotiation and communication also occur in the attendance arrangements of some organizations and teams, who consciously manage to schedule meetings and attendance to be more evenly distributed across different days of the week or staggered on the same day.

“So some colleagues now, for example, work from home for a few hours first and come to the office later. Then they compensate for each other and there are enough spots (if we include N14).” Interview 19, DGSenB

In the context of sharing spaces among different organizations or teams, the absence of explicit policies or rules is clearly observable. This situation initially leads to employees' continued adherence to pre-existing behavioral inertia and the natural emergence of a "territorial spot" of varying scale. However, the traditional territorial spot pattern is no longer suitable for the current compressed space capacity, leading employees to start communicating and coordinating informally to adjust and optimize the space-sharing. Yet, these communications and negotiations arise spontaneously at the individual level, often lacking standardization and enforceability, and instead depending heavily on mutual understanding among employees. Consequently, this reliance results in uneven levels of efficiency in practical application.

3.1.2 Share space at the individual level

Unlike sharing space between organizations, there is an established policy guiding employees on sharing space. DC even prepared a workspace management system (WMS) and reservation systems for employees to check the availability of workspace or meeting rooms. With the policy and systems, employees are expected to make effective and flexible use of the workplace in the office. The actual user behavior during space-sharing differs greatly from design intentions.

Tools provided for Sharing Space

WMS was intended to keep employees informed and help them to make conscious decisions about where and when to perform their work activities by displaying the live availability of workspaces and providing a reservation function. However, the inherent Inaccuracy and limited scope of use undermine the functional effectiveness of WMS, stopping employees from using it. Specifically, the floor plans in WMS are not up-to-date and are slightly different from the actual ones. When determining whether someone is in the room, the WMS can only detect the presence of a person, but not personal belongings, which accounts for about one-third of the cases when the room is occupied. Besides, the reservation function of WMS only works for shared floors. As a result, employees rarely use WMS to select a workplace. They typically check their floor for a workspace, and if none is available, they move on to shared floors.

It's worth noting that at the beginning of Reshuffle, WMS was implemented throughout the entire building for a period of time and received mixed reviews and feedback. However, due to strong opposition from one or two influential departments, Dienstencentrum decided to revert the implementation of WMS to apply only to the shared floors.

“WMS: various steps must be taken before you can start your work. It is a barrier (also applies to Mobile Only). It is up to the employer to facilitate the workspaces for the employees.” Interview 20, DEA

Additionally, the systems for meeting room reservations are overly complex to the point of chaos, with three systems usable for three types of meeting rooms in the building. The “Facilitator” system is used to book meeting rooms on the formal meeting floor (N1), WMS is used to book workspaces and meeting rooms on shared floors (N14, N18, and N23), and Outlook is used to book meeting rooms on the organization’s dedicated floors. Sometimes, the meeting rooms in the WMS and Outlook systems may even overlap, resulting in multiple bookings at the same time.

These workplace technologies (WMS and meeting room reservation system) are overly complex and unintuitive, increasing the learning threshold for users to adapt to the intended way of flexibly sharing space. In responding, employees often resist and revert to informal practices. A study by Leonardi (2009) highlights that misalignments between users’ material interactions with the technology and users’ social interactions can lead to resistance, as employees find alternative methods that better fit their work.

For example, cumbersome reservation tools could cause employees to engage only minimally with them and instead rely on verbal agreements or physically staking out space. A study by Andrea Bencsik and Tímea Juhász (2023) found that technological overload and uncertainty imposed by workplace technologies strengthen employees’ “technostress” and discourage employees from using them.

Workspace Monopolization

Workspace monopolization is prominent, policy-violating behavior that significantly impacts the efficiency of space utilization. When the scarcity of space capacity varies, workspace monopolization could manifest in completely different forms. Employees tend to adhere to pre-existing behavioral inertia to occupy the workspaces when there are sufficient workspaces; their behavior has a limited impact on space utilization. In this scenario, behavior and policy are detached, where employees are neither aware of the policy nor comply with it, and the policy can’t discipline behavior because the sufficiency of the space makes the policy unnecessary.

“The rule to clear the workspace during prolonged absence is not known by everyone and is therefore not followed. For others, the rules are known, but there is little need for the behavioral rules.” Interview 15, DGPenV

Space Capacity	Behavior	Domination Factor	Relationship between behavior and policy	Space Utilization Efficiency
Sufficient	Routine Occupancy (habit-based)	Behavioral Inertia	Detached	Limited Impact
Limited (occasional shortages during peak times)	Competitive Occupancy	Needs for Workspace	Conflict	Reduce
Scarce (consistent shortages during peak times)	Cooperative Sharing Workspace	Mutual Consideration & Adjustment	Adherence	Increase

Figure 3-3 Workspace Capacity Scenarios and Their Behavioral Implications

When workspace capacity becomes limited with occasional unavailability during peak times, which is the most common situation, employees start to compete to occupy workspaces, especially enclosed desktop cubicles. They secure a workspace for themselves by arriving early in the morning, while those who live further away from the office fall behind in this competition; they have to stay at home or be forced to search for a workspace throughout the building, which becomes a hindrance to their coming to the office. In other words, an implicit "first come, first served" rule is being formed, replacing the original policy of flexible sharing space and reducing the efficiency of space utilization. As a result, employees can only "occupy a space to survive" instead of effectively sharing the space.

"First come, first served. So people start their workday early. It is a race to the bottom on busy days. It is difficult to sit close to your closest colleagues."
Interview 3, DGM

"For colleagues coming from further away, there is less space because they arrive a bit later." Interview 9, DGM

"In the beginning, there was a lot of hassle because there were too few workspaces. It is difficult for a team to meet or sit together for at least half a day. If you do not arrive early, you have a small chance of getting a workspace. This results in many people preferring to work from home if they come from far away." Interview 19, DGSenB

The situation changes from competition to cooperation as space capacity becomes even tighter, to the point of scarcity. This occurs in individual organizations where office work predominated, and the one-size-fits-all downsize of workspace affected them more significantly than average organizations. Employees feel strongly about the shortage of space and find that occupancy behavior could significantly reduce space utilization efficiency or even leave most people without a place to work. Mutual consideration and understanding begin to take effect, and employees consciously use space flexibly and efficiently by adhering to the policy to log out of the workspace when leaving and organizing staggered attendance within the team.

Flexible Sharing Space Mechanism

Employees rarely leave their workplace permanently during the day. In practice, employees often set up a base camp for the day and use other nearby facilities throughout the day. When sharing space happens at the individual level, the complexity and unintuitive nature of workplace technologies, including Workspace Management Systems (WMS) and reservation systems, often results in employee resistance. Consequently, the associated policy is either rejected or disregarded by the employees. In response, they turn to informal alternatives to deal with the shortage of space capacity, such as workspace occupancy, first-come-first-served, or staggered attendance arrangements. While these behaviors may alleviate the shortage to a certain degree, they mostly occur at the individual level, thus lacking stability and relying heavily on individual employees' subjective judgments and reciprocal considerations. This spontaneous private-level coping mechanism is insufficient to support efficient space sharing in the long term and presents significant challenges to implementing policies.

3.2 Office Workplace Role

As hybrid work becomes increasingly prevalent, the Turfmarkt office is no longer occupied to capacity five days a week. "Occupancy measurement" shows the weekly occupancy rate fluctuating regularly, consistently peaking on Tuesdays and Thursdays, with maximum occupancy levels ranging from approximately 70% to 90%. There are notable declines in occupancy on Mondays, Wednesdays, and Fridays, with particularly significant lower occupancy observed on Wednesdays and Fridays, culminating in a minimal occupancy rate of around 10% on Fridays.

The transition towards hybrid work within the Dutch government has fundamentally redefined the roles of the office. Survey "WOBO 2024" shows that employees are now expected to spend approximately 50% of their working time in the office, with their work at the office emphasizing more collaboration and communication over individual work. Consequently, the government offices are designed to be an appealing and dynamic environment conducive to collaboration and communication, serving as a recognizable base location from which to work and interact with colleagues directly, while also playing a significant role in fostering social cohesion and a sense of belonging. (Beleidsvisie Toekomst van het hybride werken bij het Rijk, 2027: Hybride samen werken is vanzelfsprekend)

Despite the articulated vision, "Reshuffle Turfmarkt" failed to establish a central hub that facilitates social cohesion and collaboration among employees. The workplace layout and arrangement, the reduction of workspace capacity resulting from the Reshuffle, and the model of sharing space policy highlight the misalignment between the intentions of office workplace design and the actual user experiences and needs.

3.2.1 Social cohesion and collaboration

It's evident that employees come to the office primarily for social and collaborative purposes, formally and informally. Survey on hybrid work at BD shows that 84% of employees visit the office for scheduled meetings or appointments, 64% to work with close colleagues, and 57% in hopes of having spontaneous encounters with colleagues. These three purposes represent the most prominent reasons employees come to the office, while all other reasons account for less than 20%. This suggests that both formal and informal in-person social and collaborative interactions are not only essential to foster social cohesion among employees, but also the only significant driver for office attendance.

"The collaboration is going well and ideas are being exchanged. That is the main reason why people come to the office (especially the circle of people around your own direct colleagues)." Interview 8, DGRR

Self-reinforcement Effect

As mentioned above, hybrid work has fundamentally transformed the roles that the office and home play within individuals' workflows. Employees tend to engage in individual tasks, such as focused work and digital meetings, from home while utilizing the office space primarily for physical meetings, collaborative efforts, and social interactions. As employees gradually adapt to hybrid work, they prefer working from the office on Tuesdays and Thursdays due to their schedules and work-life balance considerations, shaping their group attendance habits in hybrid work.

Group attendance habits and the reasons employees come to the office together contribute to a self-reinforcing effect of the office workplace crowding. Most employees choose to work from the office on Tuesdays and Thursdays based on their work-life arrangements, resulting in peak days on Tuesdays and Thursdays, where individual habits and preferences determine individual attendance decisions. At the same time, since the primary motivation for office attendance is to engage in social and collaborative interactions, there is a greater propensity for individuals to visit the office on busy days to connect with a larger number of colleagues. This is when these individual decisions form a group effect; they, in turn, reinforce individual attendance choices, leading to a concentration of attendance on busy days. As a result, busy days are becoming increasingly overcrowded while quiet days experience a marked decline in attendance.

“DGRR has too few workspaces for the number of FTEs. In fact, DGRR is currently at a norm of 0.3. This has been indicated frequently, but nothing is done about it. In short, there is a lot of frustration and colleagues no longer want to work at the office for this reason. It is quiet on Wednesdays and Fridays, but colleagues want to see and meet each other and therefore prefer to come to the office on the other days.” Interview 12, DGRR; DAO

This situation seriously conflicts with the design intention of the Reshuffle, as one of the most important measures in the Reshuffle is to reduce the workplace factor (i.e., space capacity reduction) and encourage staggered attendance to mitigate the reduction from the policy level. However, the self-reinforcing effect instead concentrates employee attendance on busy days, and such excessive overcrowding exceeds the capacity of the space, resulting in a large amount of complaining about the office's busyness, crowding, and noise.

“On peak days, it is difficult to find a workspace. Better distribution could possibly offer a solution, but that turns out to be a complicated matter. Also, with that distribution, you encounter each other less.” Interview 11, DO

Social Cohesion at Stake

Employees value sitting and working with or encountering colleagues to network or collaborate when fostering social cohesion in the office. However, given the context of the flexible sharing space mechanism and the self-reinforcing effect of busy days, employees are experiencing a loss of social cohesion in the office. The high number of attendees on busy days leads to a shortage of workspace, where the organically formed spots can no longer accommodate the teams or organizations. Employees then overflow from their own spots to the entire floor and further to the shared floors. As a result, employees are forced to distribute themselves throughout the building, and over time, some employees may consider coming to the office unnecessary.

“On N14, 4 rooms are reserved for DEA. If colleagues come to the office later on Tuesday or Thursday, there is no space for them and they have to move to N23.” Interview 20, DEA

“The team prefers to sit close to each other, but since the reorganization, it has become more difficult to achieve that.” Interview 17, DGSenB

Additionally, the Reshuffle narrows the areas that can be used for social interaction on the organization's dedicated floors, as office spaces become more crowded, more spaces are used for desktop work or meetings. Usually, there is one official social area on the floor. However, social interactions happen nearly everywhere, especially random greetings and chit-chatting between

colleagues. Such informal social interaction doesn't require the typical social functional areas, just small benches or chairs, and employees consider it a key component of their daily routine in the office.

“A joint coffee moment (physical) or a drink would also help to make more contact with colleagues outside your department. Additionally, it is a good moment to celebrate your successes.” Interview 21, DC

“So more focus on social interaction at the office, because that is and will become increasingly important. There is currently little space for this.” Interview 14, DGSenB



Figure 3-4 Self-decorated social corner

The current floor design, consisting mainly of enclosed cubicles, is unsuitable for these social interactions. As a result, there have been many instances of employees refurbishing the office workplace, such as converting the original workspace area into a social space or simply adding chairs and small coffee tables in the open spaces to create an informal social corner. These space refurbishing behaviors express employees' desires for social interaction and the current shortage of corresponding spaces. However, data show that the actual usage of existing social-dedicated areas is about 20% lower than that of general workspaces, proving that solely setting up more such areas is inefficient in

terms of space utilization, but could instead exacerbate the shortage in already scarce workspaces.

“Social cohesion is at stake because colleagues see each other less or not at all. They also experience less enjoyment in their work.” Interview 2, DGRR; DAO



Figure 3-5 Self-decorated social hub

3.2.2 Place identity and psychological ownership

In the context of hybrid working at Turfmarkt, the office is no longer merely a physical space where work activities are performed, it is also expected to serve as a place where emotional grounding and identity are built. Although employees now perform focused and individual work at home, the office remains a tangible and interactive place for employees to be engaged in the organization and create a sense of belonging. Ashforth et al. (2024) and Peares et al. (2023) stated that workplaces could be deeply connected with our sense of self to cultivate “place identity” at work and positively impact workplace experience. In hybrid work environments with more fragmented presence, such physical-emotional anchoring becomes even more vital.

At Turfmarkt, employees only have transient access and ownership to the workspace under the flexible sharing space policy, diminishing their place identity in the office workplace. Such high flexibility in workspace usage and the segmented space breaks their original place identity and turns the workplace into simple functional spaces. Moreover, employees are significantly restricted in their freedom to make autonomous adjustments and decisions regarding their office workplace. However, there is a great need for both employees themselves and the organizations to create a psychological ownership of their workplace in the office (Halldorsson et al. 2021). This need is observable in employees' everyday behaviors, such as placing hand-drawn art or personalized decorations near the desks or customizing lockers with collages and images. These small but intentional actions reveal that employees attempt to regain emotional connections and identities in an impersonal and transient workspace.



Figure 3-6 People decorate their offices

"It is unfortunate that no personal art is allowed to be hung on the floor. This is experienced as a loss, especially because the current art is not liked by the colleagues." Interview 11, DO

"The walls are quite bare, especially in the rooms." Interview 15, DGPenV

As hybrid work reduces the frequency of employees coming to the office, the need for them to form emotional connections with their work environment becomes more important. Without this emotional bond, the office risks becoming just a neutral transit point rather than a meaningful part of employees' working lives. The design of the Reshuffle doesn't seem to overlook the factor of employees' psychological ownership and sense of identity within the office, instead simply placing individuals, teams, and organizations into a uniformly laid out space and expecting them to use the space as flexibly and efficiently as possible, while neglecting to leave room for emotional engagement.

In the evolving context of hybrid and flexible working, organizations must find deliberate ways to reestablish emotional connections between employees and their work environment rather than directly enforcing fully flexible policies and office design in a top-down manner. In the case of the Turfmarkt Reshuffle, the transition toward high flexibility has moved too fast and was implemented too abruptly, without sufficient attention to the emotional adjustments required for employees to feel grounded in the new office environment. As a result, the Reshuffle could potentially alienate employees from the workplace intended to improve.



Figure 3-7 Organizations decorate their offices

3.3 Workplace Resilience

Workplace resilience refers to the capacity of the office environment to adapt to changes and continue functioning effectively under new conditions, especially in the context of hybrid work and flexible shared space at Turfmarkt, continuing to meet both organizational objectives and employee needs. According to Steelcase, a resilient workplace is "an ecosystem of spaces designed to adapt and evolve over time, optimizing space use and supporting employees as needs change." In government offices, the drive for resilience is often fueled by mandates to use space efficiently and support employees' varied work patterns. The Dutch national policy vision for 2027 states that hybrid working is standard practice, with offices transformed into attractive collaboration hubs and a "compact" portfolio of workplaces.

3.3.1 Capacity resilience

Capacity resilience refers to the workspace's ability to accommodate fluctuations in employee attendance and organizational growth. In the case of Reshuffle Turfmarkt, implementing the strict 0.7 workplace factor standard and distributing organizations into the space solely according to the calculated number of floor spaces for each organization significantly restricts this resilience. Recent survey data from Remit Consulting (2024) suggested that some organizations have "overcompensated for hybrid working," and some employees struggle to find a workspace when busy days arrive. For instance, Hansson et al. (2025) state that activity-based workplaces (ABWs) deliberately have fewer desks than employees, expecting people to rotate and share spaces, which improves utilization efficiency but inherently contains the possibility of insufficiency of workspaces. Such insufficiency of capacity significantly influences employees' perceptions of the office environment, with the diminishment

and shortage of available workspaces being the most frequently identified and emotionally charged concern in the interviews. While the extent of this shortage may vary, the majority of organizations express the negative impact of this shortage on their daily work activities.

Resilience towards Attendance Fluctuation

The insufficiency of capacity resilience is particularly evident during peak days, when employees overflow from their spots and dedicated floors to less optimal areas and shared floors and take a lot of effort searching for a suitable workspace. Such practices disrupt employees' daily routines in the office, requiring additional effort to find a place to work, and ultimately undermine their satisfaction with the office and degrade the social cohesion. Interviews consistently reveal that employees perceive these workspace shortages as significant disruptions affecting their willingness to attend the office. As described in the self-reinforcing section, employees arriving later due to commuting distances or other constraints often encounter a situation where they can no longer sit together with their colleagues but are forced to be distributed on different floors.

"It is now more often a search for a workplace than before, especially on busy days (Tuesday, Thursday)." Interview 6, DGM

"The willingness is there in principle, but the shortage of workplaces makes the situation unworkable." Interview 2, DGRR; DAO

Resilience towards Organizational Personnel Change

The insufficiency of capacity resilience can also be reflected in how space responds to dynamic changes in organizational personnel. Given that the organizations have been precisely fitted into the floors, they are provided very little room for dynamic space adjustments according to their work attributes or when there is growth of personnel. For example, Organizations like NCAB and DGRR have rapidly expanded beyond the initial space allocation, especially for NCAB with double the personnel, but still squeeze in the same amount of space. They are left with little choice but to try to squeeze more people into the existing space with even fewer suitable workspaces or encroach on the space of other organizations. Such limited resilience of space capacity has exacerbated space shortages and competition for workspaces, already negatively impacting the development of certain organizations and the willingness to comply with flexible sharing space policy.

“The workplaces are in order, but there is a shortage of workspaces. The situation has improved compared to the time at N19, but it is now difficult to hold confidential conversations and receive people. The work of the NCAB has also become larger and more complex. The team has doubled, which often makes the work challenging. NCAB has grown and a taskforce is coming. It is a challenge how this should take shape, because NCAB has only limited space.” Interview 13, NCAB

3.3.2 Functionality resilience

Functionality resilience refers to the ability of specific workspace functionality to accommodate employees' various work activities. The work activities are diverse: employees alternate between focused desktop work, confidential work, hybrid meetings, physical meetings, collaborative teamwork, etc. A single, rigid workplace can hinder these varying work activities. A flexible, activity-based workplace emerged as a solution for the evolving work requirements. Research by Hansson et al. (2025) describes ABW as an office design that “aims to facilitate new ways of working” by providing different types of settings that employees can choose from based on their needs. Such an approach contributes to higher employee autonomy and collaboration when implemented well. However, if done poorly, it can lead to frustration with distractions and cognitive stress that hinder employees from coming to the office.

According to the survey “WOBO 2024”, the main work activities in the office consist of desktop work and communicative work, with desk work accounting for 68.7% and communicative work accounting for 26.7%, including physical meetings, hybrid meetings, and phone calls. Since the Reshuffle, many office concepts have been introduced to the Turfmarkt, including zoning on the floors for quiet to silent work and collaboration and meetings, a company restaurant, individual videoconferencing cabins (Qabin), live or hybrid meeting rooms, phone booths, landing spots, etc. These concepts, together with the original office workspace, build a functional-based or activity-based office environment, where employees are expected to choose the workspace according to their work activities. However, employees do not seem to buy it, as complaints about the new spaces and the low usage rate show.

Silent Floor and Project Floor

The silent and project floors intend to create spaces dedicated to focused desktop work and collaboration work for everyone in the building to share. This is due to the investigation into employees' most frequent work activities, which have been revealed to be desktop-focused work, collaboration, and meetings. However, the interviews and occupancy measure jointly confirm the failure of this concept in practice, with only a 9.2% average occupancy rate on the silent floor and 21% and 16.3% on two project floors, respectively. In comparison, the average occupancy rate on the organization's dedicated work floors is around 30%. At the same time, most employees use these floors only as overflow floors instead of following their design intentions.

“The main pain point lies with the 2 project and quiet floors. The floors are not used for projects and quiet spaces, but as regular workplaces and meeting rooms. It has become more of an overflow floor.” Interview 8, DGRR

The lowest occupancy of the silent floor can result from the sole focus on the employees' frequent work activities in the office and ignoring their reasons for coming to the office. Although desktop-focused work takes up a large proportion of employees' work activities in the office, they don't go for it and primarily come to meet and interact with each other. Sitting on the silent floor makes it almost unlikely to encounter or sit with colleagues. Van de Water (2021) found that a calmer workplace is preferable when a lot of concentrated work is required in the office, while a completely quiet workplace is unnecessary. The most common scenario is that they start searching for a workspace from their spots and continue extending beyond the spot to the entire organization's dedicated floors, with the silent floor being the last step.

After all, home workplaces are always an optimal choice for performing long-term desktop-focused work.

Furthermore, the design of the silent floor itself is also problematic, as it sets up social space and landing spots in the corners of the floor. The landing spot is intended for short-term individual work between meetings and consultations; however, the silent floor is not designed for meetings, and employees are unlikely to go to the landing spots on the silent floor specifically for short desktop work. For social space, most employees working on the silent floor are overflow from other floors, and they are unlikely to socialize on the silent floor according to the usual scenario. For these reasons, the social space and landing spots become the least utilized space on the already least occupied silent floor.

The condition of the project floors is relatively better, and employees are more willing to use them. Some teams love working on the project floors and almost keep staying on them because the layout and configuration are considered flexible and suitable for collaboration. In communication with the users of the project floors during the author's field visit, they stated that they heavily rely on the project floor to perform their work activities as a project team, and they are satisfied with the workspace configuration with more open-plan and flexible areas so that they can communicate and collaborate freely.

The layout of the flexible 18 floor is really great. Such floors provide freedom, space to move, and possibilities. Interview 22, DH&F

Despite some teams' preferences for working on the project floor, the occupancy rate is still lower than that of most work floors. One crucial barrier for employees to use the project floors, which also applies to the silent floor, is the reservation system, i.e., WMS. Opinions about WMS are polarized, with teams or employees who make a lot of use of the silent floor and the project floors believing that WMS improves efficiency. In contrast, those who make less use of these floors consider WMS a barrier; this group of people makes up the majority of the employees, and as previously stated, they treat the silent floor and project floors as only overflow floors according to their behavior pattern regarding the search for a workspace, meaning that their demands for the silent and project floors being ad hoc and irregular, they turning to floors only when they cannot find a workspace on their dedicated floors. As such, the most common scenario is the “ghost booking”, people overflow to shared floors, seeing the rooms empty but booked or they find a workspace and then get kicked out by someone who has a reservation after sitting in for a while. This experience could greatly diminish their satisfaction with these floors, especially when they see space booked but unused.

“WMS experiences as a bottleneck because it comes at the expense of flexibility. This applies on shared floors. Also cumbersome if, for example, you have to leave at 12:00 because someone has reserved the workspace then. Strange idea to actually move at that time.”
Interview 16, DGSenB

As key functional areas were added during the Reshuffle, the silent and project floors should ideally have higher occupancy rates than dedicated floors, as functional shared floors. However, the design intentions of the silent and project floors are too fixed and singular. They are intended to provide a floor for a specific function or work activity. The design

inherently requires users to distinguish work activities clearly and arrange different activities on different floors and spaces. Among them, the project floors fare slightly better as their functionality positioning aligns more with the users' expectations, namely social and collaborative interactions, while the silent floor is the least utilized due to its only focus on the nature of work that employee do in the office i.e. desktop-work and ignores more profound needs and expectations.

Functional-dedicated Space

Aside from the silent and project floors, the Reshuffle has introduced numerous new office concepts as functional-dedicated spaces. These functional-dedicated spaces were developed to align with today's office role and address the evolving requirements associated with hybrid work, including individual video or phone conferences, face-to-face socialization and meetings, and small team collaboration, among others. On one hand, these changes are positive; employees are satisfied with most of the new functional areas and have expressed the need for more of them. On the other hand, the usage rate of these functional spaces is slightly lower than that of the desktop workspace from the heatmap, despite only a limited number of such spaces on each floor. It's imaginable that if more of these spaces are implemented on each floor, their usage rates could further decrease due to reduced scarcity, while the already short supply of desktop workspace would be further compressed.



Figure 3-8 Landing spots on silent floor

The problems lie in the insufficient functional resilience of each functional space, with functions being too fixed and singular, similar to the silent and project floors. Instead of using such functional spaces, employees can easily perform various work activities in enclosed cubicles, as many of these work activities can also be performed in enclosed cubicles. In practice, employees perform almost all kinds of work activities in their enclosed desktop workspace, such as video or phone conferences, face-to-face collaboration and meetings, focused desktop work, and even small group meetings by squeezing several people into the enclosed cubicles. In contrast, functional spaces have single-purpose and stringent usage conditions.



Figure 3-9 Casual meeting room for two persons

For example, this is a new office concept of a 2-person meeting room designed for the individual taking an online meeting or a physical meeting of two people. It seems to meet the increasing demands for collaboration and meetings but sets overly strict usage conditions, which significantly limit the usage of this space. Similarly, functional spaces like landing spots, 4-person meeting rooms (see images) commonly have such problems. The highly segmented design of these functional spaces and overly strict usage conditions are the main reasons why the overall usage rate of these newly added concepts hasn't met expectations. The currently mainstream enclosed cubicles can already satisfy most of these functional

requirements, highlighting a gap in the functional resilience between the enclosed cubicles and other functional spaces. Such a gap could drive employees to become further “guarding the fort” and make excessive use of the enclosed cubicles, thus hindering the efficiency of sharing space. After all, employees would naturally prefer to stick to the same area that accommodates most of their work needs (Appel-Meulenbroek et al., 2011; Qu et al., 2010), compared to carrying their stuff and moving around the office for different work activities.



Figure 3-10 Meeting space for four persons

From the implementations of silent and project floors to functional spaces, it's not difficult to uncover a consistent design tendency: dividing the office into various functional work environments with overly delineated functional divisions to the extent of being fragmented. This tendency implicitly has a predetermination of employees' behavior in using the office space, i.e., the principles of activity-based working, where employees consciously choose their work environments according to their immediate needs, which is also in line with the sharing space policy of Reshuffle. Such a tendency brings problems that prevent it from achieving the expected effect. At Turfmarkt, there are currently two sets of space usage logics and two types of space due to the introduction of new office concepts, one of which is the enclosed cubicles dominated by the traditional office usage logic and takes up the majority of the office.

The other is the activity-based functional space emphasizing the idea of flexible sharing. These two types of space and their corresponding logics are obviously in conflict, but they coexist in the same space, requiring employees to switch between them repeatedly. However, employees won't adopt both logics when using the space. The functional and fragmented spaces require employees to organize their work activities and use the space flexibly. However, current office space configurations do not sufficiently support this flexible use, nor does the organization adequately manage the organizational culture change towards flexible space sharing among employees. Hence, employees naturally follow the logic represented by the majority of enclosed cubicles, as it is the easiest and most convenient option since it aligns with their previous behavioral habits.

3.3.3 Structural resilience

Structural resilience refers to the adaptability of the overall workplace configuration and policies to accommodate multiple needs and future changes from individuals to organizations. A structurally resilient office provides a workspace ecosystem that evolves with the employees' requirements rather than a one-size-fits-all layout and rules, acknowledging the differences between different organizations and work attributes. The current work environment and the policies provided to each organization are standardized; as a result, some organizations find them misaligned with their needs. A homogeneous workplace design can actually reduce resilience by forcing all users into the same environment and ways of using space.

Homogeneous Standard Space versus Diverse Needs

Dissatisfaction with the spatial layout and configuration because of the differences between work attributes and preferences

is a topic frequently discussed in interviews. This mainly involves different organizations and teams with different functional space needs based on their distinct work nature, while the given space and policies for using it are fixed and uniform. Although the given spaces on the organization's dedicated floors differ in proportion to open plan and enclosed cubicles, they are highly similar overall, mainly consisting of open plan or enclosed desktop cubicles with a small number of meeting rooms and phone booths. A unified sharing space mechanism for these similar spaces is established as the policy, which means there is no fixed workspace, and employees should use the space actively and flexibly. As a result, a similar space coupled with a unified policy creates a standardized office portfolio for each organization, representing a limited spatial resilience, with the expectation that this office portfolio can accommodate the needs of most organizations. However, the reality is not so.

One challenge is the director's office; most of the directors have expressed a high need and desire for exclusive director offices, as they prefer fixed enclosed cubicles for confidential work and consider them professional and easy for employees to find. In practice, most managers also fix their exclusive offices by posting notes on the doors. Managers set up personalized rooms in these rooms just like they did at their original fixed workspaces. It's worth noting that most of them added a conference table for collaboration and communication.

"Return of management offices. Currently, management often has no workplace and that is unprofessional." Interview 2, DGRR; DAO

"Directors no longer have a workspace and therefore find it difficult to hold a confidential conversation. The DG has a very small room." Interview 10, DGRR

Different organizations have expressed varying needs, but they similarly reflect that the existing office portfolio doesn't meet their work requirements. The nature of NCAB's work requires more independent and enclosed cubicles for confidential work and places to receive visitors, which makes it challenging to share spaces with other organizations. The NCAB employees consider the current workspace configurations suboptimal to their work, and the same applies to DJOA and the Central Authority Team of DGSenB. DI&I and DC, for example, involve a lot of hybrid and digital meetings and phone calls, so they request more small hybrid conferencing spaces that better meet their needs. DEA's and PPAC's work activities consist of being more physically present at the office, so they have a greater need for workspace than other organizations and teams. To glimpse the whole picture, different organizations' work characteristics vary from each other, leading to diverse workspace needs, and the current one-size-fits-all space strategy cannot match their needs. In other words, the office's functional resilience cannot accommodate diverse organizational needs.

Open-plan Workspace

The goal of supporting hybrid work also promotes the deployment of more open-plan workspaces on the organization's dedicated floors. Although open-plan workspaces have always been seen as a more flexible and dynamic form of space that can better adapt to the requirements of hybrid work, discussions have widely arisen within organizations about this. Noise, crowding, and privacy are the main points of complaints about open-plan spaces. On busy days, open-plan areas are mostly filled with people, making the entire area noisy, which makes it difficult for employees to do focused desktop work or a hybrid meeting, as conversations and collaboration are constantly happening

around them. Essentially, when employees' work activities instantly shift from general tasks or social and collaborative interactions to tasks that require greater independence and stricter sound conditions—such as joining online video conferences, making phone calls, or focusing on work—the space does not support these needs, forcing them to carry out such activities in the open plan space, which leads to most of the complaints towards the open plan space.

"Disadvantage: In a hybrid meeting in an open office space, it happens that you are approachable and then get disturbed during the meeting." Interview 6, DGM

"Hybrid work isn't optimal due to open space and lack of closed rooms. As a result, it often happens that colleagues hold meetings in the open space next to other colleagues." Interview 5, PPAC

"On the 12 there were more secluded workspaces. Now they sit with 12 colleagues in an open space. It has become much noisier and as a result, people cannot concentrate on their work." Interview 5, PPAC

"It is often noisy due to the crowd. That makes it difficult to concentrate (especially for the open workspaces)." Interview 9, DGM

Employees don't all hold a negative attitude towards open-plan spaces, there are also compliments about open-plan spaces for their suitability for social and collaborative interactions, where employees can easily find their colleagues. In this regard, the flexible sharing space mechanism combined with the open-plan space set-up creates an environment that positively impacts cooperation with colleagues. Enclosed cubicles, on the other hand, appear "less friendly and unwelcoming," and employees would hesitate to disturb those inside, thereby reducing the likelihood of social and collaborative interactions.

3.4 Employee's Perceptions in the Office

In terms of overall design and implementation, the Reshuffle is driven by organizational policy objectives and standards. Throughout the frictions between specific measures and users' actual experience, the conflict between the top-down characteristics and users' bottom-up exploratory expansion is evident. Although the government has comprehensively redesigned the Turfmarkt from various aspects, such as space configuration and usage policy, employees still cope with these transformations through self-adaptive adjustment. These adjustments are, however, only coping strategies; employees are dissatisfied with this top-down approach. The government's approach to implementing the Reshuffle and associated space configuration and policy could further diminish employees' experience and satisfaction with the office workplace. Research by Nanayakkare et al. (2021) found that the priority on standardized procedures and policies would still be rooted in the organizational culture even within flexible layouts, especially in government settings.

A large number of interviews mentioned that employees had very limited information about the implementation of the Reshuffle, and there was insufficient communication of knowledge about most of the new measures implemented, including the WMS, the silent and the project floors, the policy on workspace usage, the new office concepts like landing spots, the space layout etc. From the employees' perspective, these unconsulted and unannounced initiatives feel like a process of enforcement, with some employees even being directly kicked out of their original workspaces and being squeezed into smaller spaces, or the facts that their feedback on issues are not been responded to, which added to employees' dissatisfaction towards the Reshuffle, making they feel frustrated and unwelcome in their workspaces.

Furthermore, the Reshuffle is considered by most employees as focusing more on standards and KPI-driven than on their experience; they perceive the Reshuffle as choosing the cost over employee welfare. Such a situation indicates that the change management of personnel and the technical aspect of the change are equally important in driving an organizational transformation. On an organizational level, changes on both the technical and people sides are necessary to realize the ultimate benefits. Helping people use and adopt technical solutions is critical since even the best solution fails without user buy-in.

“There is currently little flexibility at DGSenB. In the future, more attention could be given to human needs instead of the numerical approach (occupancy rate meters, etc.). One should not underestimate the experience of people in these kinds of processes. Decision-makers should take this more into account in a next process, because the relocation has been a significant change for many colleagues. A bit more understanding would be appreciated. It affected people more than you might initially think.” Interview 1, DGSenB

“The fixation on standards: there are many strict rules and during the reorganization it often seems as if it is forgotten that the employee should be central. The floors are therefore not optimally aligned with the needs of the user.” Interview 15, DGPenV

“JenV and the RVB should not choose the easiest solution. For example, it was known that NCSC would grow. It would have been better if they had stood up more for their employees and not simply chosen the cheapest option. So, careful consideration must be given in advance to the impact on the employees.” Interview 20, DEA

Besides, employees' subjective feelings about the workplace differ significantly from the design intentions and data. This gap partly stems from the top-down implementation emphasizing standards and policy highlighted above, and it can also reflect the discrepancy between subjective perception and objective data. It is worth discussing why employees' feelings conflict with the data, because judging the situation and making decisions solely based on data is also a manifestation of ignoring employees.

3.4.1 The puzzle of data

The core issue that has been discussed regarding space capacity is that many employees complain about the shortage of space, yet data shows that there is still enough space even during the busiest times. First, it's necessary to clarify that this study uses data from both WMS and manual measurements. Due to the inherent limitations of WMS, such as its inability to measure the occupancy of personal items and only being able to measure the desks and rooms, excluding other occupied space such as company

restaurant, social areas, and so on. According to the WMS manager, nearly half of the people in the building are not detected by WMS, meaning that the actual occupancy of the building is about twice the number indicated by WMS data. Therefore, this study need to cross-verify the two sets of data. Additionally, busy days are the main focus because most conflicts regarding space availability occur on these days.

Desktop workspace

Comparing the measurements between 2022 and 2024, the average occupancy rate of the desktop workspace increased from 27.8% in 2022 to 38.6% in 2024, and the peak occupancy rate rose from 42.0% in 2022 to 72.3% in 2024. Such increases are understandable, as the average occupancy rate is bound to increase due to the implementation of the Reshuffle aimed at space compression between 2022 and 2024, and the self-reinforcing effect also influences the increase in peak occupancy.

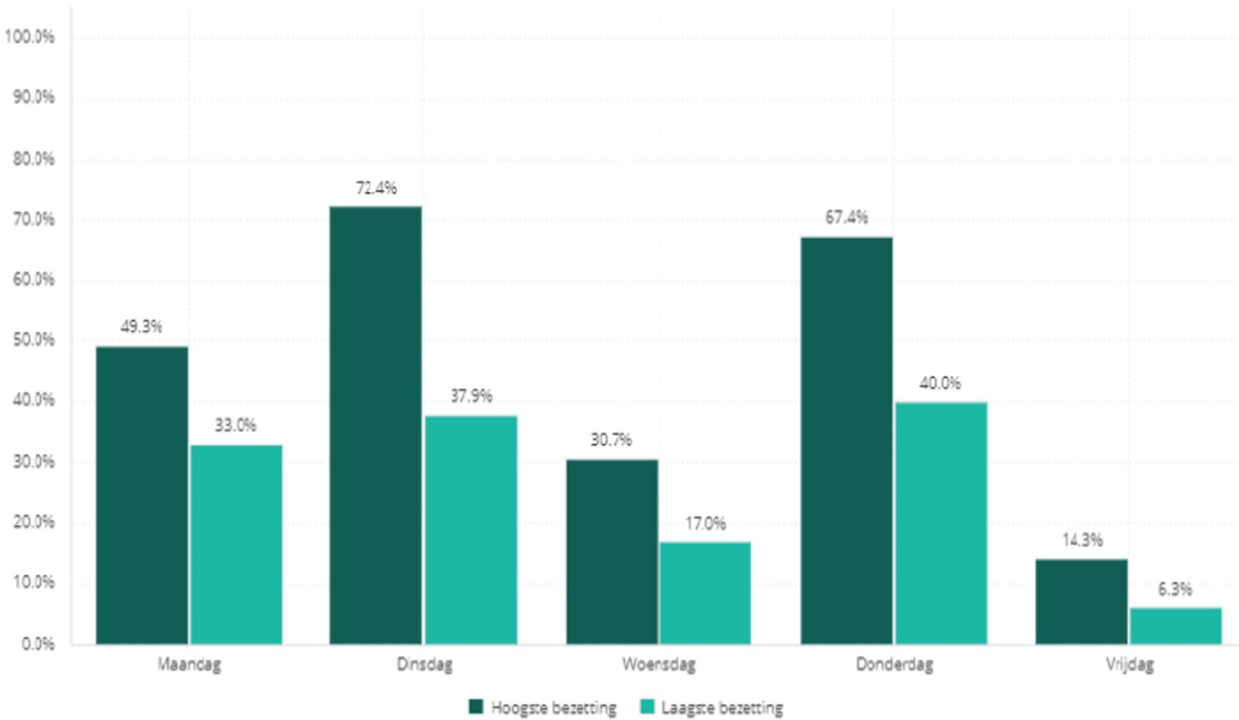


Figure 3-11 Average highest and lowest occupancy of office workspaces per workday

Looking at the data from 2024, the average occupancy rate of desktop workspaces on all floors on busy days is around 55%. This occupancy rate can be divided into person-occupied and stuff-occupied. The temporary vacancy rate (stuff occupied) takes up around 30% of the total occupancy rate, illustrating that occupancy by person is always less than 50%, even on busy days.

At the same time, there are peak occupancy differences between floors; on the same day, some floors have peak occupancy above 90%, and others have peak occupancy below 50%, resulting in an 80% average occupancy rate by floor on the temporary hourly peak. The temporary peak occupancy rate of 11 out of 17 floors is above 80%, for the entire BD area, 25% of the desktop workspaces are always completely free. A conclusion that seems to be drawn from the data above is that the average occupancy of desktop workspaces on busy days is only 55%, and even at the peak hour, it's only 80% occupied. Overall, there always seems to be sufficient space available.

	Gemiddeld e bezetting (personen en spullen)	Gem. Bezetting door personen	Gem. tijdelijke onbezetting	Piekbezetti ng (personen en spullen)	Gegevens WMS - januari
N8 - SG	32,1%	22,6%	9,5%	88,9%	
N10 - SG	29,8%	17,8%	12,0%	90,0%	31%
N11 – SG	45,0%	27,1%	17,9%	95,3%	34%
N12 – SG/ DGSEnB	38,3%	24,6%	13,7%	80,6%	35%
N13 - DGSenB	36,7%	21,2%	15,5%	84,1%	34%
N14 (stilleetage)	12,7%	9,2%	3,5%	43,9%	11%
N15 - HDBV	51,1%	31,4%	19,7%	91,0%	34%
N16 - HDBV	41,7%	28,3%	13,4%	83,3%	30%
N17 - HDBV	39,5%	24,5%	14,9%	85,9%	29%
N18 (project)	33,8%	21,0%	12,8%	66,2%	28%
N19 - DGRR	53,5%	37,2%	16,4%	81,2%	38%
N20 - DGRR	45,9%	30,3%	15,6%	90,3%	34%
N21 – DGpenV en DGRR	41,2%	30,5%	10,7%	73,3%	33%
N22 - DGenV	31,8%	21,5%	10,3%	71,4%	29%
N23 (project)	24,1%	16,3%	7,8%	60,0%	19%
N24 - DGM	45,7%	31,8%	13,9%	92,7%	35%
N25 – DGM/DGOek	44,9%	25,2%	13,4%	72,5%	33%

Figure 3-12 Occupancy per floor

Communication workspace

Communication workspaces are used an average of one-third of the time, and temporary vacancies hardly occur there. When a space is used, employees spend 68.3% of the time in physical meetings, and approximately 29.8% is on hybrid meetings and associated activities. The average utilization of the spaces remains below 60%, which means that the capacity of a space has been used for a maximum of 60%. On busy days, the communication workspace's average occupancy rate is 54.1%, with the temporary hourly peak at 86.5%.

Despite the differences between floors, it can still be concluded from the data that there is sufficient workspace even on busy days because the average desktop and meeting space occupancy rate is just over 50%. However, employees frequently report feelings of crowding and discomfort well before an office is “full.” In other words, the subjective sense of crowding kicks in at occupancy levels far below 100%.

3.4.2 Employee’s feeling

Based on personal experiences, employees offer a different perspective on the sufficiency of workspaces reflected in the given data. Why the difference? First, Brouwers et al. (2024) concluded that employees do not perceive their workplace experience holistically and objectively, and they tend to judge through personal feelings; this subjective feeling is not reflected by the occupancy rate of the workspace. Research shows that employees begin to feel noise and crowding once office occupancy or crowding reaches a certain level, not only when it reaches 100%. Second, each employee uses the dedicated floor of the organization to which they belong as their primary workplace, and the occupancy rate of the specific floor on busy days would directly impact their experience, instead of the average of all floors.

Although the data shows only about 55% occupancy on busy days, significant differences between floors can cause the occupancy rate of specific floors to exceed the threshold. Finally, it is also inaccurate to look at the occupancy rates of the desktop workspace and the communication workspace in isolation because the desktop workspace mainly determines the office's capacity, as most employees won't spend all their time in the office in meetings. Desktop work accounts for around 70% of all work activity, meaning that even if most employees come to the office for meetings, they still use the desktop workspace for temporary needs. Therefore, the occupancy rates of desktop workspaces and communication spaces are not independent but can add up to some extent.

In short, an individual's experience is more influenced by the specific time, place, and functions they require on their floor. From an overall perspective, even a spacious and well-equipped area may be perceived by users as not meeting their needs due to factors such as the proportion of functional configurations, layout, and special conditions of the floor.

Perceived occupancy

Given the subjective nature of employees’ feelings, their sense of crowding or comfort is not solely determined by the factual number of people in the work environment. The standard metrics cannot tell the whole story, the same occupancy could be experienced differently depending on other conditions. A study by Brouwers et al. (2024) differentiated occupancy and perceived occupancy, identifying the latter as the perceived (mis)alignment between personal demand and workspace availability; in other words, the perceived occupancy is driven by the misfit between employees’ need for space and what the environment provides. Therefore, the perceived occupancy could vary from the objective occupancy because of various influential factors.

Brouwers et al. (2024) further identified a mix of environmental, social, and personal factors that shape individual perceptions of the office.

Environmental factors, including the layout's openness, acoustics, type of workspaces, and availability of quiet workspaces, all affect perceived occupancy. The openness is the most studied factor concerning perceived occupancy. For example, Kropman et al. (2023) concluded that a large number of occupants has adverse impacts on productivity and well-being. Noise is identified by Vischer (2007) as a consequence of high-density offices and a primary source of discomfort. Social factors mainly refer to the norms of personal space, territoriality, and workplace culture. Research by Halldorsson et al. (2021) noted that the loss of territorial space could make employees feel psychologically crowded because of their lack of ownership of any space. Zoghbi-Manrique-de-Lara & Sharifiatashgah (2019) found that crowding itself doesn't frustrate employees but could intensify relational conflict during space sharing. Individual differences regarding noise sensitivity, task complexity, and inhibitory ability, etc., also play a role in how individuals experience the work environment. According to Maher & von Hippel (2005), poor stimulus screening and low inhibitory ability could lower workspace satisfaction when coping with complex tasks.

The interplay of these factors suggests that the occupancy rate alone cannot correctly reflect employees’ perceived occupancy. As Brouwers et al. (2024) concluded, a human-centered approach that includes various factors is essential to understanding why a space can feel crowded without being full.

Noise

Noise is repeatedly identified as the main complaint of employees in hybrid offices, and it can amplify perceived crowding and discomfort. Employees highlight the people talking, lack of speech privacy, and phone noise as key issues regarding the workplace's acoustic environment, especially in open-plan spaces. Hybrid offices with open-plan space naturally have a certain noise level, and the cumulative chatter and activity can make the space seem busier than it actually is, as more people enter the office.

“It is often noisy due to the crowd. That makes it difficult to concentrate (especially for the open workspaces).” Interview 9, DGM

Noise and perceived crowding always go hand-in-hand; employees feel crowded because of the sound of conversations and activities like hybrid meetings. When the office gets louder, employees interpret it as more people present: “Louder offices may give the impression of increased numbers of co-workers,” effectively equating noise with higher social density.” (Jicol et al., 2023)

3.5 Key Findings

3.5.1 Exploratory adaptations

Employees adopt spontaneous exploratory adaptations in response to resistance to the policy framework in the context of compressed and flexible space usage. This exploratory adaptation occurs broadly at the organizational, team, and individual levels and can be described as competition and cooperation in space sharing. The reason could stem from the absence and failure of the policy framework, namely, the lack of a space-sharing mechanism at the organizational and team level; the complexity, inaccuracy, and unintuitiveness of the newly implemented workplace management system; and the overly idealistic policy of space usage. Together, this creates a gap between the policy framework and user experience, leading users to turn to informal alternatives to cope with the situation of flexibly sharing in compressed space capacity, i.e., exploratory adaptation. Various negotiations and competition occur between organizations in sharing space; teams naturally form vleks to establish their core dedicated area; staggered attendance arrangements within teams and organizations; employees develop spontaneous coping behaviors like workspace occupancy, first-come-first-served, and “guard to fort”, and so on. Some of these exploratory adaptations may positively influence the space usage efficiency. Still, exploratory adaptations generally fall far short of the vision of flexible sharing space. They can be summarized as the continuation of habits related to fixed workspace and the coping strategies forced by practical constraints. These exploratory adaptations occurring at a private level lack stability and depend on the individual's subjective judgment and mutual understanding. Such spontaneous private-level coping mechanisms are insufficient to support long-term, requiring political guidance and support to form a collective consciousness.

3.5.2 Conflicting space usage logic

The continuous friction between the new space usage logic and traditional (change the word) inertia generates a blank transitional zone. The overall design of the Reshuffle aims to introduce a new logic of space usage in the office, segmenting work activities into distinct functional spaces and encouraging employees to flexibly transition between these spaces to achieve overall spatial efficiency. Deploying the new office concepts—shared floors, functional-dedicated spaces, and the company restaurant—adheres to activity-based, flexible space sharing. Correspondingly, the traditional fixed workspace logic persists, where employees anchor themselves to a specific workspace, perform most work activities, and use nearby facilities as needed. Many exploratory adaptations could stem from the traditional logic, such as the emergence of vleks and the practice of posting sticky notes in front of the room to assert territorial claims. Enclosed cubicles embody this traditional use pattern, serving as both physical and symbolic anchors for conventional work habits.

Thus, there is an evident tension between the two usage logics within the same environment: Should employees adopt a flexible sharing approach to workspace according to their needs, or should they preserve a stable “home base” within the flexible policy framework? The empirical evidence supports the latter: we observe widespread exploratory adaptations dominated by the traditional usage logic. There are two main reasons for this. One is the absence and failure of the policy framework as discussed above, leading to the inability of the organizations to manage the cultural transformation towards a flexible shape sharing logic effectively.

More importantly, the new space configuration fails to enable the envisioned logic of flexible sharing. Firstly, enclosed cubicles still comprise a significant proportion of the office, continuing to serve as a physical carrier supporting the traditional usage logic. Secondly, the newly deployed highly segmented functional spaces require an unrealistic degree of behavioral flexibility at this moment, as employees transitioning from a fixed-workspace culture cannot instantly adapt to a fully flexible usage logic. As a result, employees continue to default to the logic represented by enclosed cubicles, which best accommodates their existing habits and minimizes friction.

The two types of usage logics are at the two extremes of space usage patterns. When the Reshuffle introduced highly segmented spaces and fully flexible space usage patterns in a top-down manner, the inertia of traditional usage patterns anchored employees in place, leaving a vast blank transitional zone in the middle and creating an ongoing conflict between two logics. Employees are therefore left to navigate and adapt to this ambiguous terrain individually, reflecting the complexity and challenge of orchestrating cultural and behavioral change.

3.5.3 Place identity

Employees perceive that the fully flexible, efficiency-driven office design has diminished their sense of place identity, turning the workplace into a mere functional transit point instead of a meaningful environment. Place identity has always been the core value and significance of the office as a physical work environment. The Reshuffle, however, adopted a top-down shift to a highly flexible, functionally segmented, and efficiency-driven design by simply cramming individuals through number-crunching into uniformly spaces, expecting them to use the space as

flexibly and efficiently as possible while neglecting to leave room for emotional engagement. Therefore, employees now experience the office workplace increasingly as a transit point rather than a meaningful part of their work lives. The absence of design features and policies supporting the values is evident, as employees responded by attempting to recreate place identity and psychological ownership: naturally forming “vleeks”, displaying team symbols, refurnishing formal and informal social areas, or personalizing their immediate environment. In the context of hybrid and flexible work, organizations must find deliberate ways to reestablish place identity and psychological ownership between employees and the work environment rather than directly enforcing strict flexible policy in a top-down manner. Otherwise, employees risk becoming alienated from the work environment, undermining their satisfaction and the unique collaborative potential of physical offices.

3.5.4 Rigid segmentation vs. Dynamic needs

The discrepancy between the restructured office portfolio and the diverse functional demands centered on dynamic social and collaborative interactions can be interpreted as a form of workplace inflexibility. At the individual level, employees’ core demand for the office is social and collaborative interactions in the context of hybrid work, even though desktop work still accounts for a considerable proportion of their work activities. Therefore, social and collaborative interactions can be viewed as the core driving need, while desktop work can be viewed as necessary. The Reshuffle acknowledges both needs and provides solutions by implementing silent and project floors and functional-dedicated space. However, the solutions are overly simplistic and rigid, reflecting a

cost-effective approach that merely matches each work activity to a corresponding space. This approach overlooks the dynamic transitions and interdependencies among various activities. For example, formal and informal social and collaborative interactions are deeply embedded within desktop work and transform rapidly rather than occur in isolation and regularly. Consequently, employees express dissatisfaction regarding both social and collaborative interactions and desktop work, even when the corresponding spaces seem relatively sufficient. At the organizational level, diverse work attributes and preferences contribute to diverse requirements for the workplace. The Reshuffle, however, adopts a standardized, one-size-fits-all model of office portfolio, making the environment inflexible and rigid in addressing organizational differences. These unified, strict, and rigid office portfolios and configurations significantly diminish the resilience of office environments, thereby hindering the ability to meet multiple demands across individual and organizational scales and to adapt to future changes.

3.5.5 Perceived occupancy

The above discussed a series of environmental, social, and personal conflicts that collectively have a negative impact on employees’ perceived occupancy, creating a discrepancy between the perception and the occupancy measurement data. Moreover, the self-reinforcing effect of the hybrid office attendance intensified the discrepancy by concentrating the crowds on Tuesdays and Thursdays. Currently, employees are situated in multiple discordant conditions characterized by the absence and failure of the policy framework, conflicts between two extremes of space usage logics, emotional detachment, and social cohesion at stake,

as previously discussed. Together, these factors shape employees’ strong negative feelings of “crowding”, “dissatisfaction”, and “discomfort” regarding the office workplace, resulting in a puzzling gap between these feelings and the occupancy measurement data. Therefore, the conclusion can be clarified that the strong negative emotions and complaints from employees do not simply merely point to the insufficiency of workspaces. Rather, they imply employees’ disadvantaged position within the “Reshuffle” process, wherein various individual and organizational needs are not addressed or satisfied.

4. Define the Conceptual Framework

This chapter bridges research and design by establishing a conceptual framework for the workplace ecology that synthesises research findings. Policy design and practical situations are mapped onto this framework to reveal conflicts between theory and practice. Based on this, the core friction points to be addressed in the design phase are defined.

4.1 Workplace Ecology

4.2 Workplace Ecology of Turfmarkt in Theory

4.3 Workplace Ecology of Turfmarkt in Practice

4.4 Conflict between Theoretical and Practical Ecology

4.1 Workplace Ecology

Based on the results revealed in the discovery phase, four key elements stand out as crucial in shaping the workplace ecology of the Turfmarkt office building: (1) Knowledge workers, (2) Space as a carrier of affordances (3) Space usage pattern, and office role. These elements are interconnected and interact, constituting the workplace ecology.

Space, as a physical environment, acts as a carrier of affordances, presenting the action possibilities that the environment offers to an organism (Gibson, 1979). Its capacity, functions, and layout can enable or limit certain types of work activities.

Therefore, the space actively shapes and reflects the intended uses and serves as the infrastructure through which knowledge workers' requirements and organizational functions are materially realized.

According to IBM Education (2025), “A knowledge worker is a professional who generates value for the organization with their expertise, critical thinking, and interpersonal skills.”

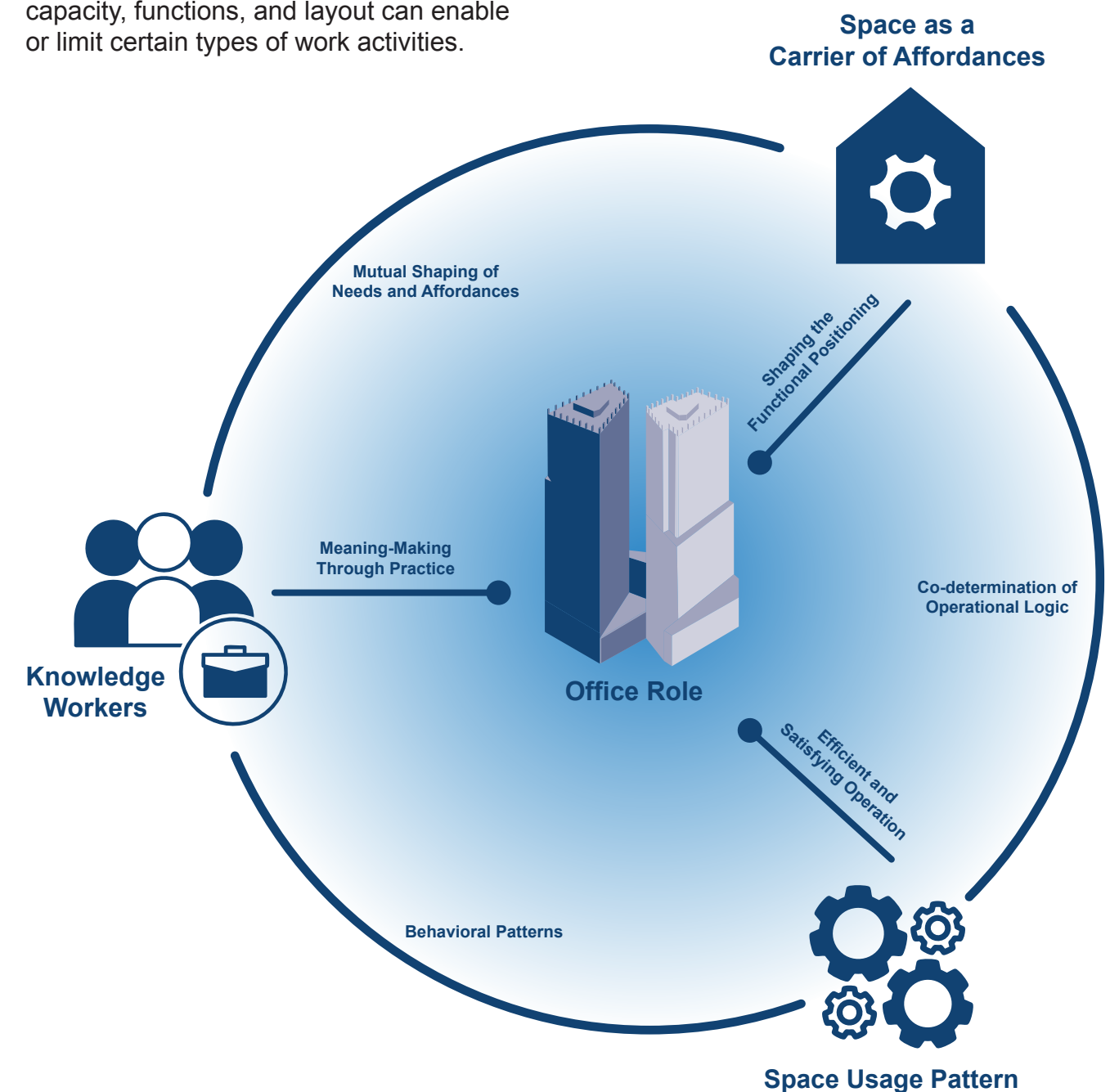


Figure 4-1 Workplace ecology framework

Unlike simply using the term employee or user, knowledge workers accurately highlight the characteristics of the Turfmarkt office building’s users, who work with knowledge as their main capital. Accordingly, their work patterns and needs are also characterized, which will be elaborated on later. The work of knowledge workers in the office can be divided into core driving needs and necessary activities. Core driving needs are the main purposes and motivations that prompt them to go to the office,



Figure 4-2 Core Driving Needs

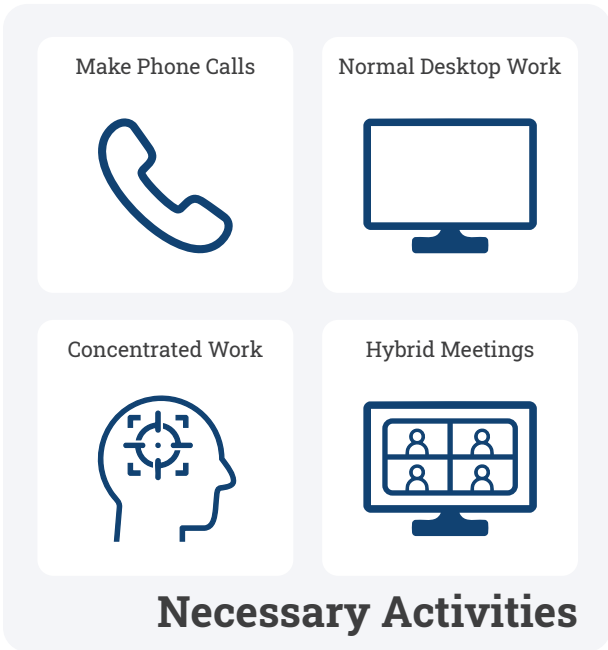


Figure 4-3 Necessary Activities

namely physical meetings, socializing, and collaboration. Necessary activities refer to the daily necessary work activities when they are working in the office, including making phone calls, normal desktop work, concentrated work, and hybrid meetings.

The space usage pattern refers to the operation system of formal or spontaneous rules, policies, and cultural routines on how the space is accessed and used. The pattern includes both top-down instruments (such as reservation systems or desk cleaning policy) and bottom-up practices (such as the formation of “vlek” or workspace occupancy behavior). It acts as an intermediate to align between knowledge workers’ needs and space affordances, ultimately influencing the effectiveness of the space utilization.

Finally, the interaction between the knowledge worker, the space, and the usage pattern collectively influences office role. This role represents how knowledge workers perceive and use the office workplace and how it is embedded in their daily workflows. At the same time, the symbolic, functional, and emotional significance of the office’s role is continuously constructed through daily practices. It not only reflects the organization’s intentions but also the adaptations of the knowledge workers and plays an important role in shaping workplace ecology.

The four elements—knowledge workers, space as a carrier of affordances, space usage pattern, and the role of the office—do not operate in isolation. Instead, they are interdependent and dynamically co-constitute the workplace ecology of the Turfmarkt office building. Understanding their relationships could reveal how spatial experiences of the office are shaped.

Knowledge Workers and Space as an Affordance Carrier

Knowledge workers interact with the office space based on their needs, preferences, and social habits. Their daily work practices give meaning to space and define what functions are needed and how the spaces are utilized. Conversely, the space as an affordance carrier conditions how knowledge workers can act through its capacity, function, and layout. This creates a mutual shaping relationship, where users adapt to space, and space is interpreted and repurposed by users.

Knowledge Workers and Space Usage Pattern

The space usage pattern mediates the interaction between knowledge workers and the environment. Formal policies defined by the organization aim to standardize the space utilization and align it with the organizational goal. At the same time, spontaneous practice (i.e., exploratory adaptation) reflects how knowledge workers adapt or resist such policies. They form their behavioral patterns by complying, ignoring, or modifying the policies, shaping the space usage pattern in practice. This emphasizes the feedback loop between user behavior and policy design; what is prescribed in theory may diverge from what occurs in practice.

Space as an Affordance Carrier and Space Usage Pattern

The space usage pattern determines how the space affordances are activated. For example, an enclosed cubicle may serve different purposes depending on whether it is granted on a first-come, first-served basis, by reservation, or reserved for a specific individuals. At the same time, the space itself may in turn influence the development of and compliance with the patterns.

Confusing layout or illegible signage may prevent proper use, even if the policies are well-designed. Therefore, this relationship constitutes a codetermination of spatial meaning and use, where the pattern governing space usage and the space affordances shape how knowledge workers engage with the office workplace and what the space enables in return.

Office role as a comprehensive synthesis

The office role evolves from the interplay among the other three elements. The office forms specific characteristics and shapes the office role through knowledge workers’ interpretation and utilization of the office, as well as mechanisms guiding or restricting their behaviors. This way, the office role is a comprehensive synthesis; it reflects the degree of coordination between space carrier, usage mechanism, and daily practice, and together they constitute the office workplace ecology. The office promotes productivity, user satisfaction, and social cohesion when the ecology operates harmoniously; when uncoordinated, it leads to chaos and inefficiency.

Thus, these four elements collectively construct a conceptual framework of workplace ecology focused on the relationship between users and the physical environment of the office. The framework aids in organizing insights and findings from the discovery phase and in precisely defining problems, which sets the stage for the design phase.

4.2 The Workplace Ecology of Turfmarkt in Theory

Based on the conceptual framework of established workplace ecology, the real picture of Turfmarkt's current workplace ecology can be obtained by applying the actual situations of the Turfmarkt office building into the framework. The ecology map clearly reflects the multiple gaps between the envisioned workplace ecology of the Reshuffle and the actual user experience. These gaps can be considered the core issues of the current workplace ecology and serve as starting points for the following design phase, providing directions for future design.

In the design of the Reshuffle, each component of the workplace ecology has been designed or stipulated from a theoretical angle. As clarified in the previous discussion, the Reshuffle is fundamentally driven by

policies from higher-level management and organizational expansion within the Ministry of Justice and Security. Specifically, it requires the new workplace to reduce the number of workplaces per FTE and prepare the office to better adapt to hybrid work models. The above changes can be reorganized and integrated into the conceptual framework of the workplace ecology to reveal the essential characteristics of Reshuffle as a transformation of the office workplace.

The goal of the Reshuffle is to recreate the office role as an efficient office space that facilitates social cohesion and collaboration. How has the Reshuffle managed to achieve it through adjusting knowledge workers, space as an affordance carrier, and the space usage mechanism?

During the process of Reshuffle, knowledge workers were directly reassigned to new workplaces according to the size of their teams or organizations. They were forced to leave their familiar workplace and enter unfamiliar ones. Due to the fully flexible sharing policy, they had no choice but to take action to adapt to the new workplace. It can be said that they were almost overwhelmed by being placed in the new workplace. In the theoretical design where new workplace serves as a carrier of affordance, the core of Reshuffle can be summarized as configuring corresponding functional spaces according to the various work needs and activities of knowledge workers, such as the quiet floor for concentrated work, project floors for team collaboration, and two-person meeting rooms for social interaction. These functional spaces are strictly set to correspond to specific needs and activities, and some are clustered into functional zones, like the quiet floor. Ideally, these spaces can accommodate specific work needs or activities respectively, and users need to consciously choose and book their workspace according to their schedule (at least in the initial design). On top of the reassigned personnel and reconfigured workspaces, Reshuffle also introduced a new space usage policy to ensure that knowledge workers can use the spaces smoothly and efficiently, namely the fully flexible space usage policy. Under this policy, almost all spaces are fully shareable, and employees working in this building have the right to use most workspaces, and this is accompanied by strict rules for logging out of the space and high requirements for employees to plan and choose their workspaces consciously. Additionally, the WMS (Workspace Management System) was introduced to help them find or reserve a workplace. This means that the complete flexibility of the workplace needs to be based on strict behavioral requirements for employees and the effective utilization of WMS.

Specifically, they need to prepare their daily work plans in detail in advance according to their work activities, reserve or check availability of the space, use and change the space accordingly, and clear and log out the original spaces for the following user. Only when everyone strictly adheres to this policy can the efficiency of space usage be maximized.

Such a series of designs creates the workplace ecology in theory, where knowledge workers meticulously plan their day in the office and continuously switch their workspaces with personal items (concentrated working on the silent floor for two hours, having a meeting on the project floor for an hour, going to organization's dedicated floors for social interactions, etc.). It forms a picture of the workplace that aligns with the needs of knowledge workers, and where people and work activities flow efficiently and smoothly within these spaces.

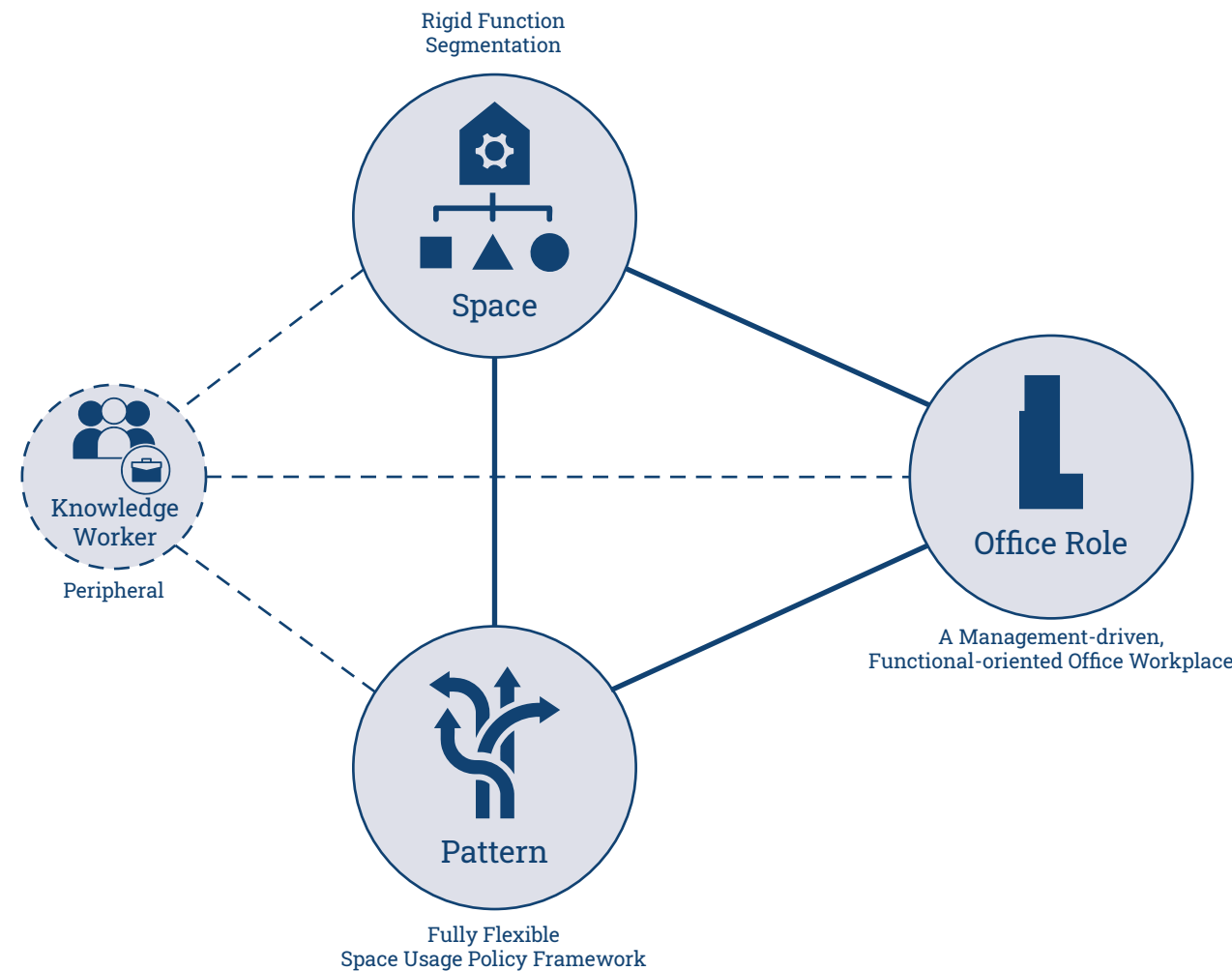


Figure 4-4 Workplace ecology in theory

4.3 The Workplace Ecology of Turfmarkt in Practice

As the core issue repeatedly highlighted, the gap between the user's experience and the Reshuffle's design intention can be further clarified and confirmed in the framework of workplace ecology. When the theory is applied in practice, knowledge workers' actual behaviors significantly differ from those in theory, resulting in a workplace ecology in daily practice that is completely different from the one in theory. This ecology is shaped by their spontaneous behaviors, constituting a tension with the ecology in theory.

The only similarity between this ecology and the one in theory is that knowledge workers are still crammed into their respective spaces through number-crunching, while they do not use the space as the theory intended. In daily practice, the work activities of knowledge

workers are dynamically transitioning and interplaying. For example, the need for concentrated work for an hour could suddenly arise in the workflow. In this case, leaving with personal items to work on the silent floor for an hour seems individually inefficient, not to mention the workspace shortage due to its downsizing, which makes them even more reluctant to give out a workspace and find a new one, and makes it impossible for them to switch workspace mechanically as theory. Adding to this space anxiety is the fact that they abandon WMS due to its unintuitiveness and complexity.

Therefore, knowledge workers tend to continue their behavioral inertia to establish "base camps" on their respective floors (largely enclosed cubicles or possibly open-plan space) and use the surrounding functional space and facilities, as well as relying on more primitive approaches like negotiation and communication to share workspace instead of technical tools. Thus, instead of switching workspaces efficiently as in theory, knowledge workers engage in competitive behaviors, aiming for the territorial occupation of every workspace, and evolving into guarding the fort.

In this ecology dominated by knowledge worker behaviors, the space function segmentation and usage policy set by the theory are ineffective, resulting in a management-driven, function-oriented office role that does not match the actual behaviors. As a result, when knowledge workers enter the workplace and start using the office, the space, mechanisms, and people exhibit a disorder, that is, an uncoordinated workplace ecology.

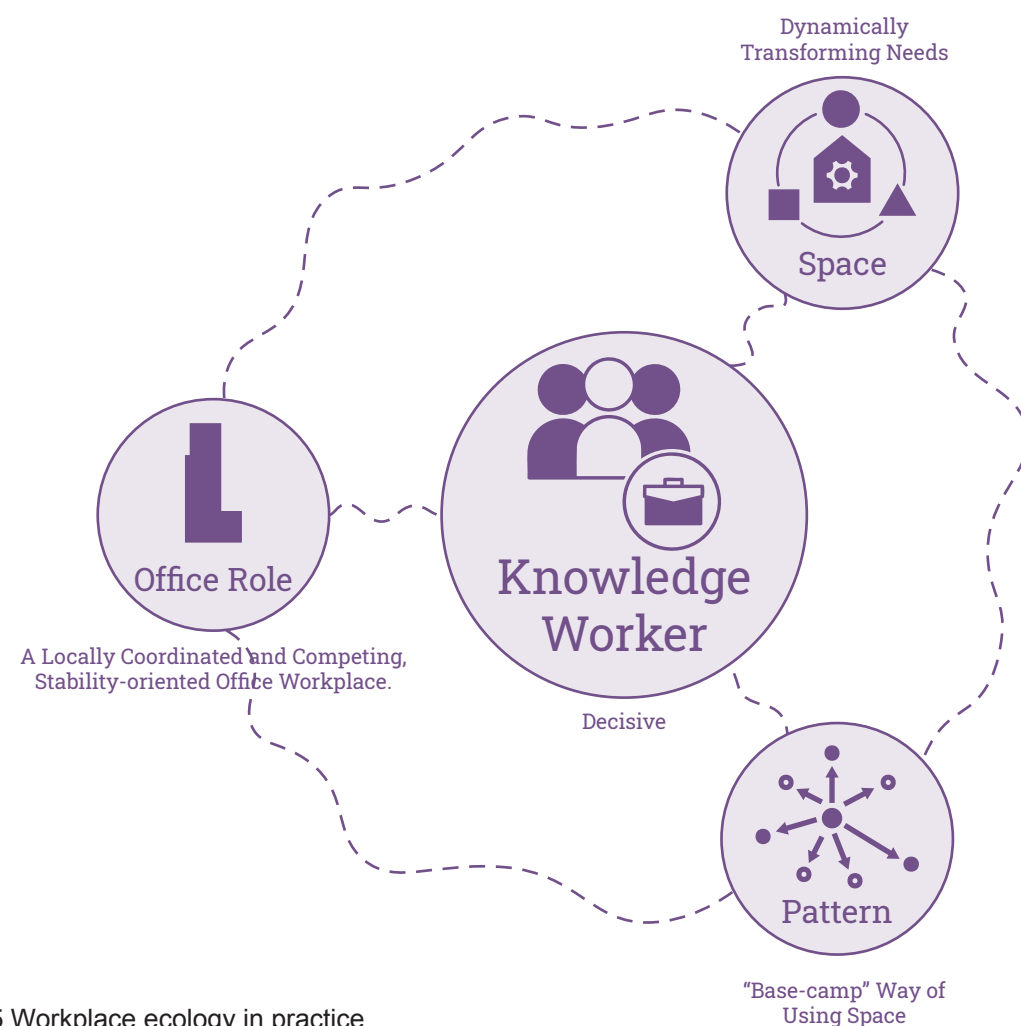


Figure 4-5 Workplace ecology in practice

Policy vs Practice - How people move in Turfmarkt

Policy Intention

The fully flexible policy expects people to switch their workspace across rooms and floors per task and activity. In this case, people need to arrange their daily workflow in detail and change workspace accordingly, resulting in an activity-based roaming across the building to form an “optimal space per activity” model.

Workspace for:

- Physical Meeting
- Collaboration
- Normal Desktop Work
- Concentrated Work
- Casual Social Interaction
- Hybrid Meeting
- Make Phone Call
- Base Camp

Daily Practice

People set “base camps” near their team and colleagues (vlek) to carry out most of their work, make short trips for calls, coffee, or quick meetings, and then return. They gather near their “base camps,” compressing most activities into a small area, only leaving for specific tasks like meetings.

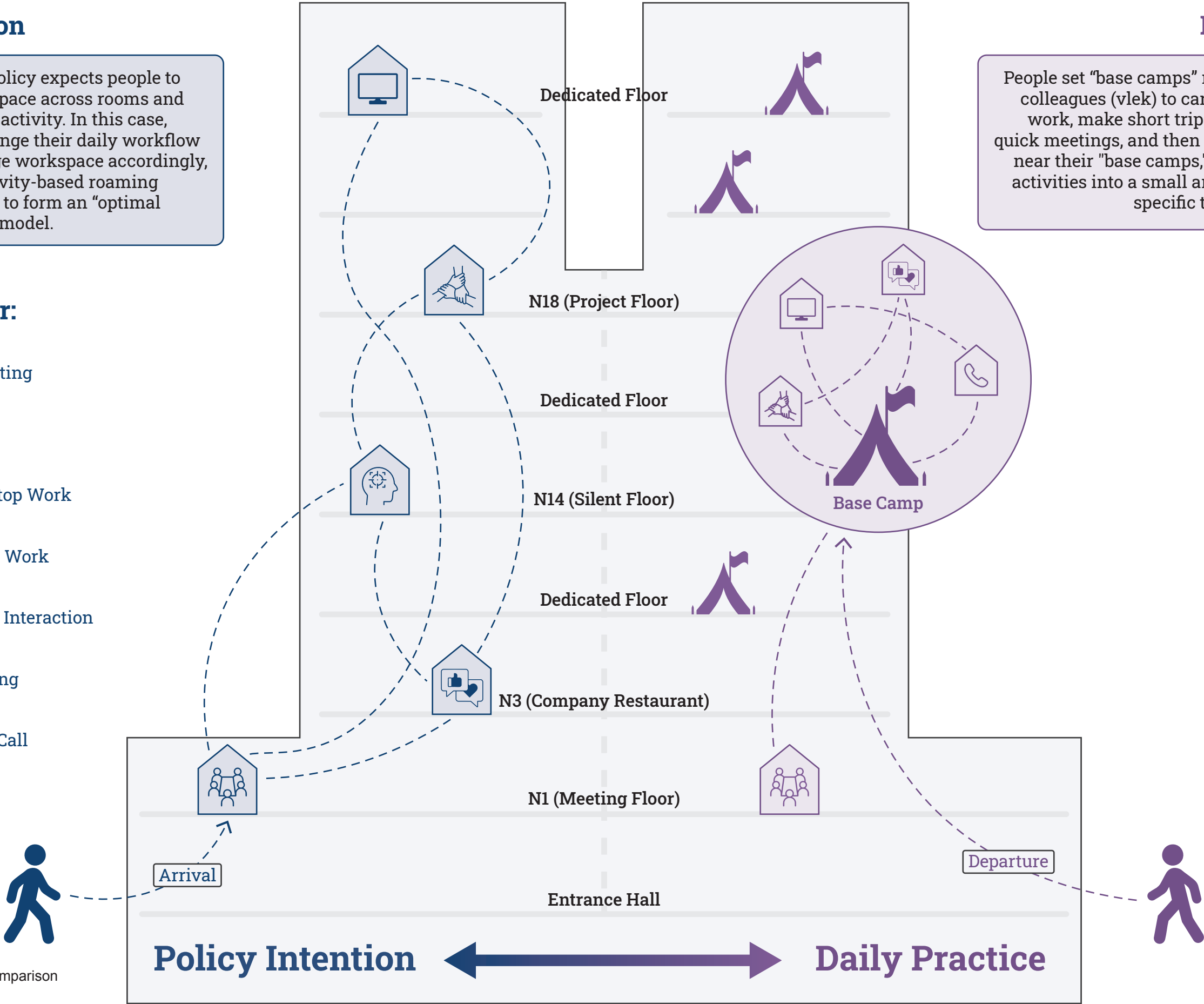


Figure 4-6 User journey comparison

4.4 Conflict between Theoretical and Practical Ecology

The above discusses workplace ecology in theory and practice, respectively. It has been clarified how each component is designed in theory and how it specifically manifests in daily practise; they shape the two office workplace ecologies with significant conflicts and differences. These conflicts and differences reflect the gap between user experience and theoretical design, providing insights into the puzzle of human behavior. In theoretical ecology, knowledge workers seem to be an insignificant component of the ecology, receiving insufficient attention and not taking an important role. Instead, the Reshuffle created an “effective office machine” with idealized space, pattern, and office role designs.

However, knowledge workers are ignored by simply being placed into this pre-designed ecology, while they are actually the decisive component in the ecology in daily practice. Their behaviors can, in turn, influence and even redefine other components, leading to varying degrees of ineffectiveness in the space mechanisms, and office role. The actual behaviors of knowledge workers do not match the theoretical design of the office. The workplace ecology defined by theory cannot accommodate their behaviors because of the misalignment between user behavior and theoretical assumptions. A conflicting relationship between space, mechanism, and office role in theory and practice can be defined.

Regarding the space, the conflict lies in the rigid functional segmentation of space in theory versus the dynamic needs of knowledge workers. Specifically, such conflict could lead to two extreme scenarios: first, knowledge workers are forced to fragment their work activities, spend a lot of time emptying workspaces, and search for a new one. Second, they compete to occupy enclosed cubicles, where they perform most of their work . Over the long-term adaptation, the first scenario could gradually shift to the second, since knowledge workers naturally prefer to resort to more comfortable and straightforward solutions in the chaotic and troublesome environment. Of course, in either case,

the user dynamics have already invalidated the theoretical space design. Furthermore, since most knowledge workers tend to occupy enclosed cubicles due to their dynamic needs and gradually return to their original base-like behavioral pattern, the fully flexible usage policy fails. Instead, knowledge workers engage in extensive exploratory adaptations, gradually exploring and forming space usage mechanisms that suit their behavioral patterns within the given space. This includes implicit rules like “first come, first served”, “handdoek leggen”, negotiation between teams, etc. The core conflict in the pattern lies in knowledge workers seeking a sense of stability and territory in an inherently fluctuating and

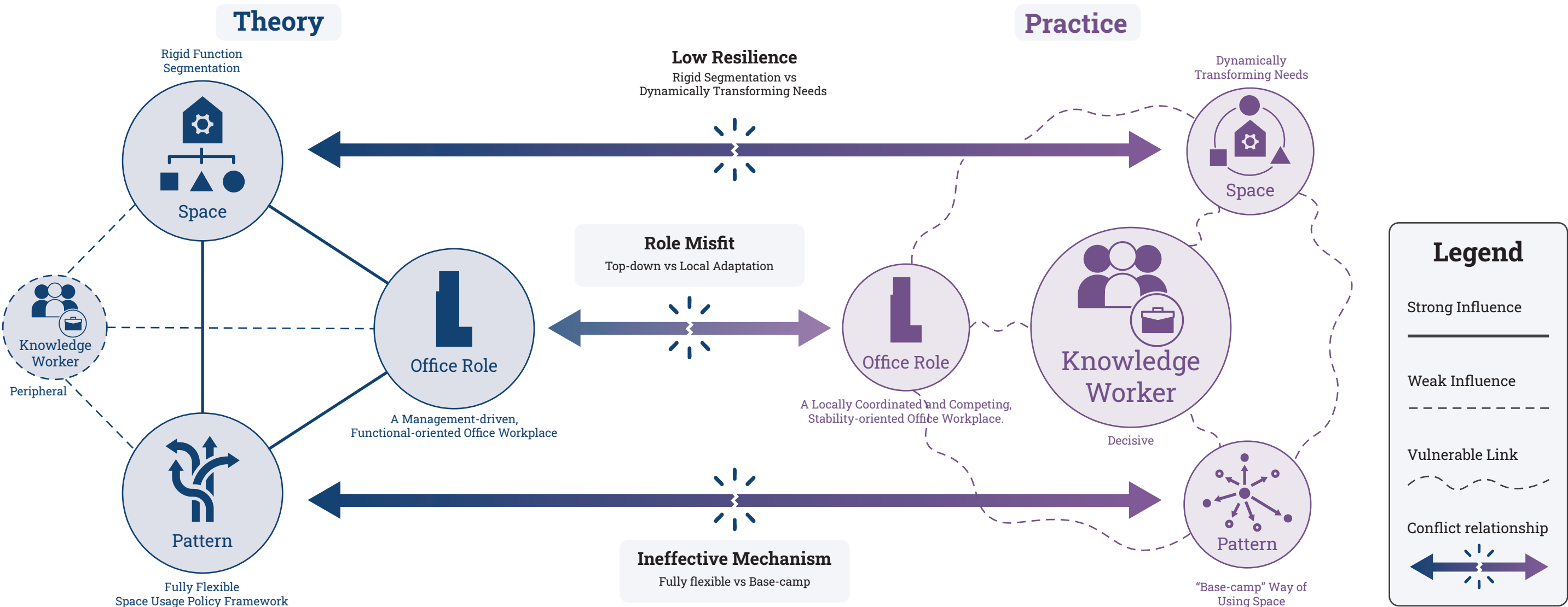


Figure 4-7 Workplace ecology comparison

dynamic environment by adopting a base-like behavioral pattern. The Reshuffle, however, fragments their coherent workflows into pieces of work activities in different workspaces and only provides them with short-term usage rights, thus eliminating the possibility for them to establish a place identity in the office. At the same time, part of the conflict could also stem from the knowledge workers' resistance to WMS due to its unintuitive nature and complexity. The most significant problem accompanying this core conflict is the space anxiety and mental load repeatedly mentioned in the interviews, resulting from the fear of not having a workstation to work on and the difficulty searching for a suitable workspace.

Based on the above discussion of the conflict between theoretical and practical ecology, several key questions emerge: First, how could the space design balance the people's inherent needs for territoriality and familiarity with the organizational imperative for efficiency and flexibility, thereby alleviating the space anxiety from uncertainty about workspace availability? Second, how should the mechanisms (policy and technical tools) be designed to streamline and support people using the space smoothly, instead of enforcing complex procedures that hinder them? Third, how can equitable and harmonious space sharing among teams and organizations be facilitated, acknowledging diverse and dynamic needs? These questions lie at the heart of the current ecological dissonance in the office, highlighting the necessity for a more organic approach to accommodate human behavior. Addressing these questions forms the foundation and starting point of the design directions in the next section.

5. Redesign the Workplace Ecology

This chapter, after retracing the research questions, defines the design goal and three sub-goals and generates a list of design requirements to guide the design. Most importantly, it represents the overall redesigned workplace ecology, namely FlexScape. The FlexScape proposes a gradient flexible ecology, and is supported by four concrete concepts ranging from product design to governance model innovation.

5.1 Design Goal and Criteria

5.2 Design Deliverable

5.3 Concept1: ShareBar (Partition line + Time light)

5.4 Concept2: Lightweight Login System

5.5 Concept3: Decentralized Space Governance

5.6 Concept4: Adaptable Booth

5.1 Design Goal and Criteria

This study sets a core design goal and a list of requirements to translate the conceptual framework and research findings into a concrete design solution. These serve both as the foundation for guiding ideation and conceptualization and as the standard for evaluating the concepts.

5.1.1 Problem Recap

The research surfaces a consistent pattern: people want to work together in familiar “*vlekken*” and are still not adaptable to a fully flexible space-sharing model. Plus, current spaces, policies, and tools don’t yet make flexible sharing easy and intuitive. In practice, many initiatives for the ecological transformation of the office workplace, driven by the Reshuffle, largely fight against, rather than align with, people’s behavioral habits. The points of conflict lie in:

- Territorial habits meet shared capacity.
- Policy framework is high-level; Sharing is negotiated privately and ad hoc.
- People are creatures of habit with social desires; Spaces are fully flexible.
- Workflow is dynamically transforming; Functions are rigidly segmented.

The design problem that needs to be answered during the design phase can be defined:

How can the workplace ecology be adapted to balance spatial efficiency with employees’ psychological and practical needs in a hybrid working context?

The question proposes reshaping the existing workplace ecology. The core of this reshaping lies in bridging the gap between organizational efficiency goals and employee needs by adjusting knowledge workers, space usage mechanisms, and space as a carrier of affordances.

5.1.2 Design Goal

Building on the research, a overall design goal is defined, with three concrete sub-goals that translate the insights into effects.

Create a workplace where people feel at ease the moment they arrive because the workplace explains itself and is formed by each one. People can easily locate themselves with familiar colleagues and spots, make everyday switches between functions simple, fair, and low-effort. The environment provides smooth transitional guidance, gradually shifting behavior from territorial habits to flexible sharing.

To make it actionable, the goal is unpacked into three sub-DGs according to the workplace ecology framework as followed:

DG-1: Frictionless daily flow across functions

DG-2: Co-shape to rebuild familiarity and ownership

DG-3: Intuitive space agreement that nudges flexible pattern

Each sub-DG can be extrapolated to specific desired outcomes that collectively contribute to the core design goals, see Figure 5-1 for a detailed development process from design problem to design goal and expected effects.

Design Problem: How can the workplace ecology be adapted to balance spatial efficiency with employees’ psychological and practical needs in a hybrid working context?

Design Goal (Response): Create a workplace where people feel at ease the moment they arrive because the workplace **explains itself and is formed by each one**. People can easily locate themselves with familiar colleagues and spots, make everyday **switches between functions simple, fair, and low-effort**. The environment provides smooth transitional guidance, gradually shifting behavior **from territorial habits to flexible sharing**.

DG-1: Frictionless daily flow across functions



People’s work rhythms change throughout the day, diverse tasks accompanied by diverse needs.

Overly strict functional divisions not only fails to meet dynamic needs but also interrupt flow.

If transitions are easy and visible, people won’t occupy rooms for long periods for short tasks or be at a loss.

Effect: People can quickly and easily switch to suitable workspaces according to tasks, improving space utilization and user satisfaction.

DG-2: Co-shape to rebuild familiarity and ownership



People anchor to familiar colleagues and spots; without belonging, sharing feels like loss in the office.

A fully flexible policy and employees with almost no power in office workplaces.

Bounded autonomy enables teams mark “this is us” while keeping edges welcoming and flexible.

Effect: Teams have a recognizable and self-definable home area where they can reliably find each other and feel ownership.

DG-3: Intuitive space agreement that nudges flexible pattern



Heavy tools and invisible rules push people to improvise, space anxiety correspondingly rises.

People’s non-adoption of tools and policies continues to use space in original and habitual ways, thus preventing flexible space utilization.

Bounded autonomy enables teams mark “this is us” while keeping edges welcoming and flexible.

Effect: At a glance, people know what’s available and under what etiquette; while accommodating people’s habits, friendly it facilitates the office culture’s shift to a flexible pattern.

Figure 5-1 Design Problem to Design Goals and Expected Effects

5.1.3 List of Requirements

This list translates the design goal and the three sub-DGs into concrete needs that the design solution must satisfy. These needs can then be framed under several keywords, reflecting the core criteria of the design solution. The requirements are categorized into four categories: Hospitable, Autonomy, Intuitive Simplicity, and Equilibrium.

Category 'Hospitable':

The current “ahead of its time” flexible policy has disrupted people’s comfort zones, making them feel unwelcome even as they resist it. In the office, people often searching while walking with anxiety. Unclear boundaries and availability create anxiety and slow starts.

- The design should enable people to find and access a suitable workspace simply and quickly.
- The design should alleviate people's space anxiety, making them feel that there is always a place to work.
- The design should reduce conflicts between individuals or teams that arise from negative competitive behaviors over space at boundaries.
- The design should invite and encourage sharing attempts by giving people lightweight tools.
- The design should preserve a sense of ownership and continuity, so teams can reliably find one another day to day.

Category 'Autonomy':

According to the research, people anchor to familiar colleagues and spots even in a fully flexible pattern. The sense of belonging must be rebuilt without recreating hard territory. People need autonomy over their daily workspaces, both in terms of emotional and functional needs. Autonomy here is bounded: keep everyday coordination close to the team while ensuring edges remain open and respectful.

- The design should allow people to form “*vlekken*” organically.
- The design should keep micro decisions and coordination local.
- The design should allow for light personalization for team to manage their area.
- The design should enable everyone to express their needs and intentions for space use and make it easy to respond

Category 'Intuitive Simplicity':

People’s daily workflows change during the day, and decisions are often made on foot. “Intuitive simplicity” means the environment carries the instruction, people know what to do and act by default with minimal cognitive load.

- The design should be easy to read at a glance, so people can understand what’s available, for how long, and what’s suitable while walking around.
- The design should aim for “see and act,” minimizing cognitive load through the most straightforward steps.
- The design should follow consistent rules to make it easy for people to use the space throughout the building.
- The design of space and function should seamlessly integrate into people’s daily workflow.

Category 'Equilibrium':

The workplace must balance dependable anchors with fair sharing and smooth transitions between functions. “Equilibrium” means neither rigid territory nor chaotic flexibility, but a stable gradient where edges are easy to cross and reset.

- The design should protect anchors as predictable team bases while enabling short, respectful sharing at the edge.
- The design should create soft transitions between functions, so ad hoc work activities can happen near the team and spaces reset quickly.
- The design should prevent monopolization in certain types of workspaces.

5.2 Design Deliverable

Based on the three design directions defined in the last chapter, the design solutions need to identify a feasible path between diverse workspace demands, behavioral patterns, and sustainable development goals. In other words, it must address knowledge workers’ space anxiety while achieving the organizational efficiency requirements; it must support continuity and familiarity for their work while implementing the flexible space using mechanism; it must achieve an organizational performance that reduces the workplace factor to 0.5, while deeply embedding the concept of flexible space sharing to help groups naturally transition to a state of autonomy. Therefore, this study introduces the “Ecological Gradient” concept to create a gradient-flexible workplace ecology, namely FlexScape.

FlexScape is characterized by three features. FlexScape is a holistic gradient, in which the ecology is interconnected by gradient zones with different levels and functions, forming a networked and hierarchical ecological pattern. This pattern ensures that the ecology meets functional coherence and diversity of needs. FlexScape is an organic gradient, which emphasizes the need for a gradual transition between different gradient zones rather than rigid segmentation. Lastly, FlexScape is a resilient and sustainable gradient highlighting that the management and functions of the ecology need to be dynamically adjusted and evolve in stages according to time and demand. Overall, the gradient and the transitional relationships between gradient zones are the premise for building workplace ecology resilience, and only a highly resilient workplace can have corresponding accommodation capacity, flexibility, and adaptability.

5.2.1 Construct functional clusters

The workspaces are clustered according to the functions and classified into three types.

Level A spaces are designed as Anchors, serving as a stable team-based home base, mainly in the form of zones, which vary in size to accommodate teams of different scales. They are distributed on each floor, consisting of open-plan workstations and several open or semi-open collaborative booths. This allows anchors to accommodate normal desktop work and casual social interactions, the two most important work activities for knowledge workers to establish a place identity, which usually occur coherently and frequently in their workflow. At the same time, they don’t have a high requirement for environmental factors such as noise and privacy. Therefore, anchors replace fixed workstations and enclosed cubicles, expanding knowledge workers’ individual bases into team anchors, helping team members regain a sense of belonging while ensuring flexibility.

Level B spaces are designed as Supportive spaces, which are function-driven and consist of enclosed workspaces like phone booths, cubicles, and small meeting rooms. This type of space is widely distributed in the zones between anchors, supporting knowledge workers’ ad hoc work activities: concentrated work, phone calls, hybrid meetings, and small social and collaborative interactions. These work activities usually occur randomly during the daily workflow and are generally short in duration but require high levels of privacy and an acoustic environment, making them unsuitable in anchors. At the same time, knowledge workers tend to use nearby spaces rather than spend too much time searching for a space due to these work activities.

Therefore, widely distributed and anchor-adjacent supportive spaces are well-suited venues to support these activities, providing knowledge workers with convenient "plug-and-play" workspaces.

Level C spaces are designed as independent spaces, consisting of meeting rooms of various sizes scattered throughout each floor. These spaces are typical meeting and collaboration rooms, primarily accommodating formal physical meetings and team collaborations. These work activities are usually highly planned, have a long duration, and require high levels of privacy and an acoustic environment. Unlike the situations for work activities supported by Supportive spaces, knowledge workers are receptive to moving further for these activities and are less likely to interact with the environment nearby. Therefore, Independent spaces can accommodate these formal physical meetings and team collaborations, providing knowledge workers with the most suitable workspaces.

The functions carried by Anchors, Supportive spaces, and Independent spaces already cover all the needs and activities of knowledge workers in the office. Compared to the Reshuffle's rigid function segmentation, the three-level clustering not only ensures that the spaces' potential is released, providing a premise for sharing and fluidity, but also prevents them from being segmented into overly fragmented and rigid parts, causing employees to run between different spaces frequently.

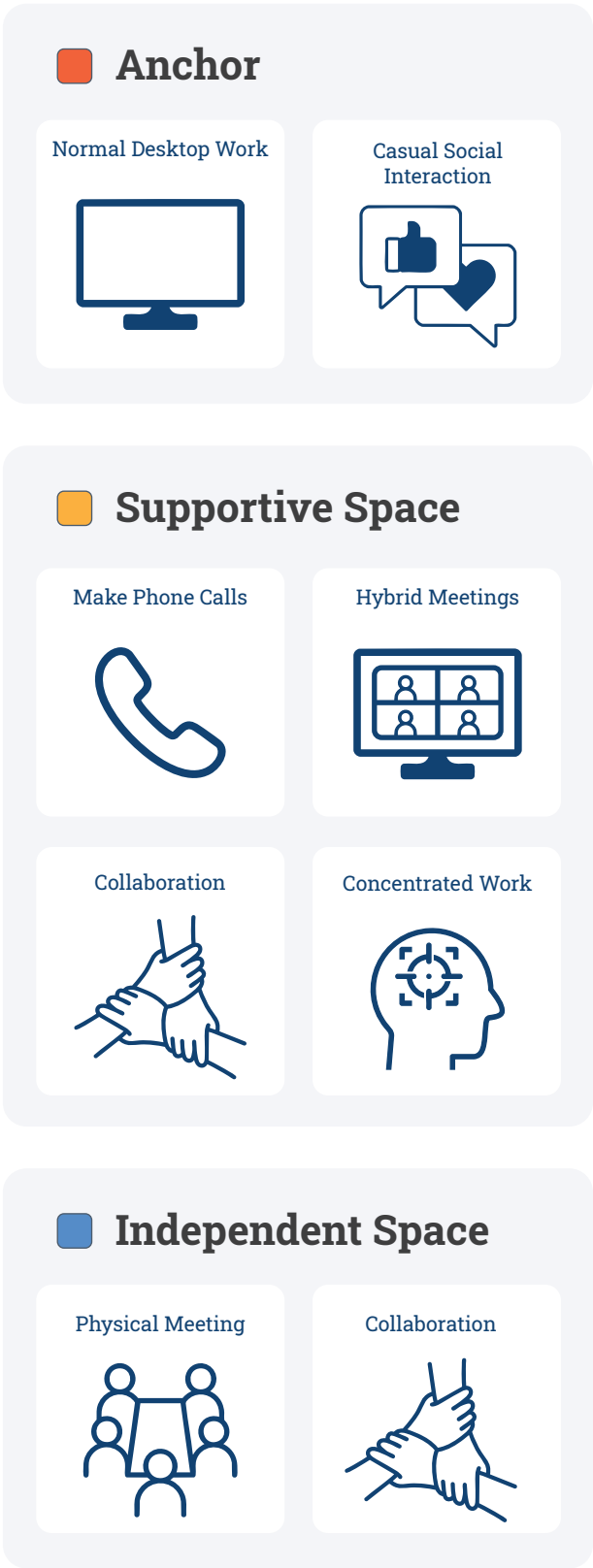


Figure 5-2 Function clusters

5.2.2 Construct flexible gradient zones

Although most employees have clearly expressed their willingness to share space, they also voice a desire for "territory". The fully flexible space-sharing policy adopted by the organization has caused them anxiety about the sense of stability and confusion about where to find a suitable workspace. As the research deepens, a key problem of the Reshuffle is identified—all spaces have the same level of agility. This means that different workspaces, whether open-plan workspaces, meeting rooms, or enclosed cubicles, are all at the same flexibility level - the highest level. The design of the Reshuffle mistakenly believes that equal openness and sharing of each inch of the office could achieve the highest flexibility of the whole building. However, this not only causes employees to complain and creates sharing chaos but also makes the building crowded. The reason is that the same level of flexibility undermines the resilience of the workplace ecology and instead reduces its capacity and adaptability. Introducing a flexibility gradient, then, is necessary in this case.

Anchors are defined as having a low level of agility. Although it's impossible to assign specific teams to anchors due to employees' desire for autonomy, their layout and design interventions (discussed in the next section) could encourage employees to form anchors naturally. Employees in a team or close colleagues are encouraged to sit together and work, accompanied by casual social interactions. Given the large number of anchors, reducing their agility (such as tacitly allowing employees to occupy the workspaces when necessary) will not excessively harm the organization's goals, while providing employees with a sense of "stability" and "territory" towards their anchors.

Supportive spaces are defined as having a medium level of agility, meaning they are shared only within each floor. As supportive spaces, the number of supportive spaces is less than that of anchors, with a lower carrying capacity. They are shared only among employees on the same floor, making it easy to achieve high flexibility. If supportive spaces can keep the ideal level of sharing on the same floor, they can fulfill their supportive functions.

Independent spaces are defined as having a high level of agility, meaning all employees in the office are open to sharing. The number of independent spaces is limited (this represents that independent spaces are very scarce in practice), but because their usage time is fixed and highly planned, they are the easiest to share fully flexibly and provide the highest carrying capacity. More importantly, physical meetings and collaborations are the primary purposes for employees to go to the office, so it is necessary to set independent spaces at the highest agility level. This can significantly improve the employee experience and vigorously promote achieving organizational goals.

Above all, the agility gradient of three-level spaces is $A < B < C$, which can significantly enhance the resilience of the workplace ecology, improve the adaptability of the space-sharing mechanism, as well as the carrying capacity of the office.

5.2.3 Construct flexible boundaries and dynamic mechanisms

In the workplace ecology, a gradual transition relationship is needed between different gradient zones rather than rigid segmentation. Therefore, design interventions can add a “transition zone” to construct flexible boundaries between different gradient zones, achieving a flexible transition of “gradual” management. This requires accurately identifying the transitional needs of knowledge workers when switching between different gradient zones, in order to build supportive spaces or mechanisms. This can alleviate the conflict between the rigid segmentation of spatial functions and the dynamic needs of knowledge workers. In addition to the dynamic needs of knowledge workers faced at all times, the workplace ecology also faces challenges like fluctuations in personnel attendance, requiring the establishment of dynamic adaptation mechanisms to suit different scenarios.

Therefore, the design interventions introduce the concept of “modularity,” through different modules such as movable workbenches and screens. Modular furniture and facilities are easy to recombine and adjust layouts, enabling quick responses to changes in team size or office modes. At the same time, modules allow the workspace to efficiently adapt to different needs, thereby avoiding long-term idleness and low utilization, improving usage rates, and reducing space waste. Therefore, the design interventions introduce the concept of “modularity,” through different modules such as movable workbenches and screens. Modular furniture and facilities are easy to recombine and adjust layouts, enabling quick responses to changes in team size or office modes. At the same time, modules allow the workspace to efficiently adapt to different needs, thereby avoiding long-term idleness and low utilization, improving usage rates, and reducing space waste.

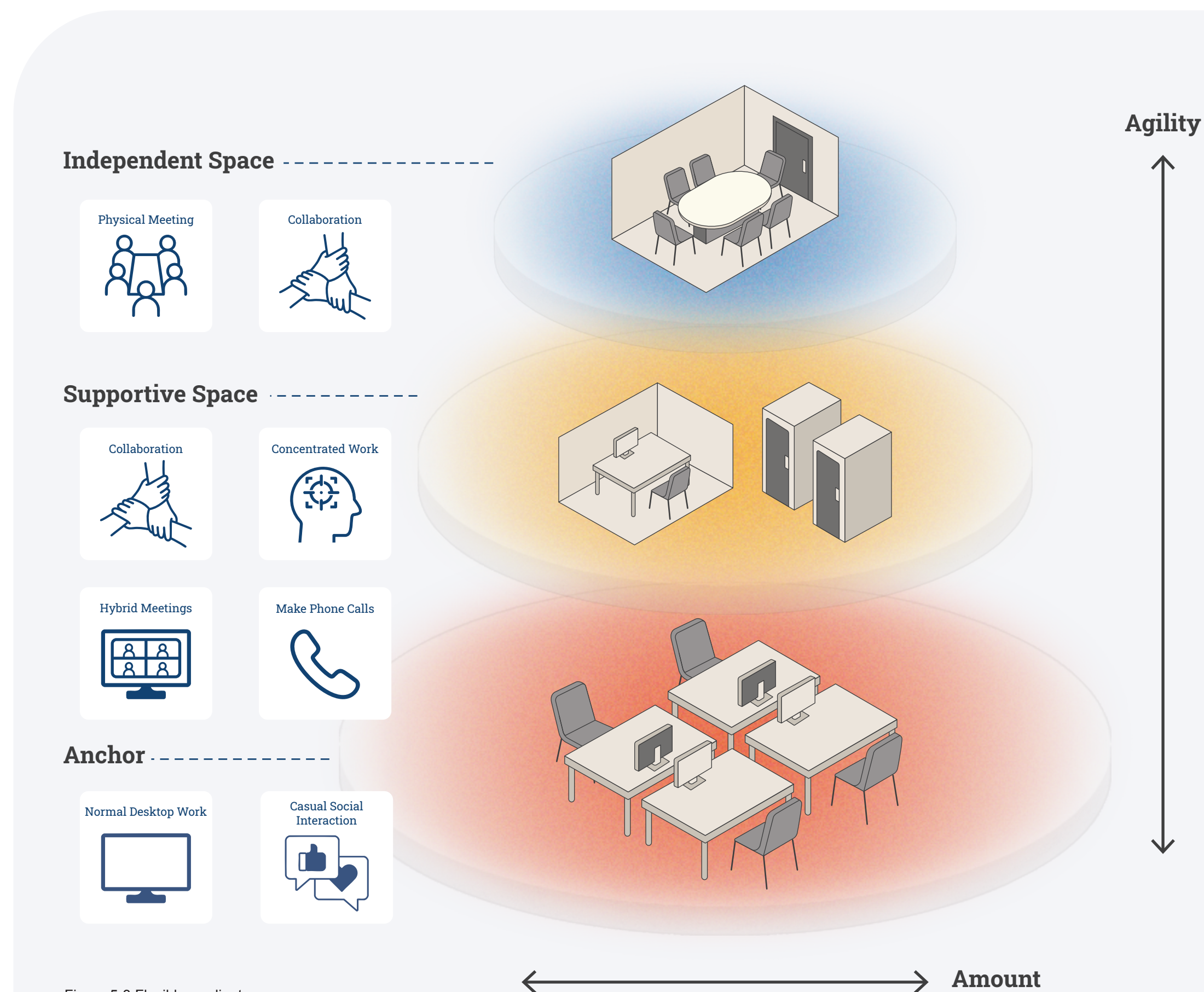


Figure 5-3 Flexible gradient zones

5.3 Concept 1: ShareBar (Partition line + Time light)

The concept of ShareBar aims to enhance the fluidity and flexibility of the currently widespread enclosed cubicles, improve their utilization efficiency, and transform them from base workstations that are frequently occupied into transition zones between Anchors and supportive spaces. This design concept primarily originates from the severe occupancy issues of enclosed cubicles discovered in the research and was inspired by the “Parking Card” concept discussed in the internal communication. You can place the card on the desk when temporarily leaving. This way, colleagues will know when you'll be back, and they can use this space in the meantime. This parking card effectively

materialized people's willingness to share, but the subsequent problem is that might feel like "second-class citizens" who have to give up their space when the owner returns.

As highlighted in the discussion, most people are willing to share; however, the absence of a streamlined mechanism for space-sharing almost forces them to “guard their fort”. The ShareBar offers a simple and intuitive way to free knowledge workers from the competition of workspaces, helping them express their willingness to actively share workspaces while preventing anxiety about losing their workspaces. The ShareBar consists of two

simple components: a rectangular module attached to the edge of the desk and a partition line on the desktop. The module features a light strip on the outer side facing the door and a timer on the inner side facing the desktop. The light strip uses green, yellow, and red indicators to indicate the available time for the workspace, representing sufficient, limited, and scarce available time, so that knowledge workers seeking a short-term workstation can quickly check the status. The original user can set the departure time with the timer, while the temporary user can view the remaining available time. The ShareBar demarcates both users' exclusive usage areas on the desktop, ensuring that neither user has to worry about their belongings being disturbed.

When using the workspace, the partition line and timer convey more specifically the availability information of the workspace (available desk area and time), enabling them to arrange their workflow accordingly.

The core of this design lies in the partition line, which embodies knowledge workers' willingness to share space while simultaneously ensuring a certain degree of territorial sense. Furthermore, it can progressively promote people's mindset and behavior transition towards the concept of sharing workspace. Thus, the enclosed cubicles currently serving as the bases can gradually be transformed into the supportive spaces that are partially open and shareable.

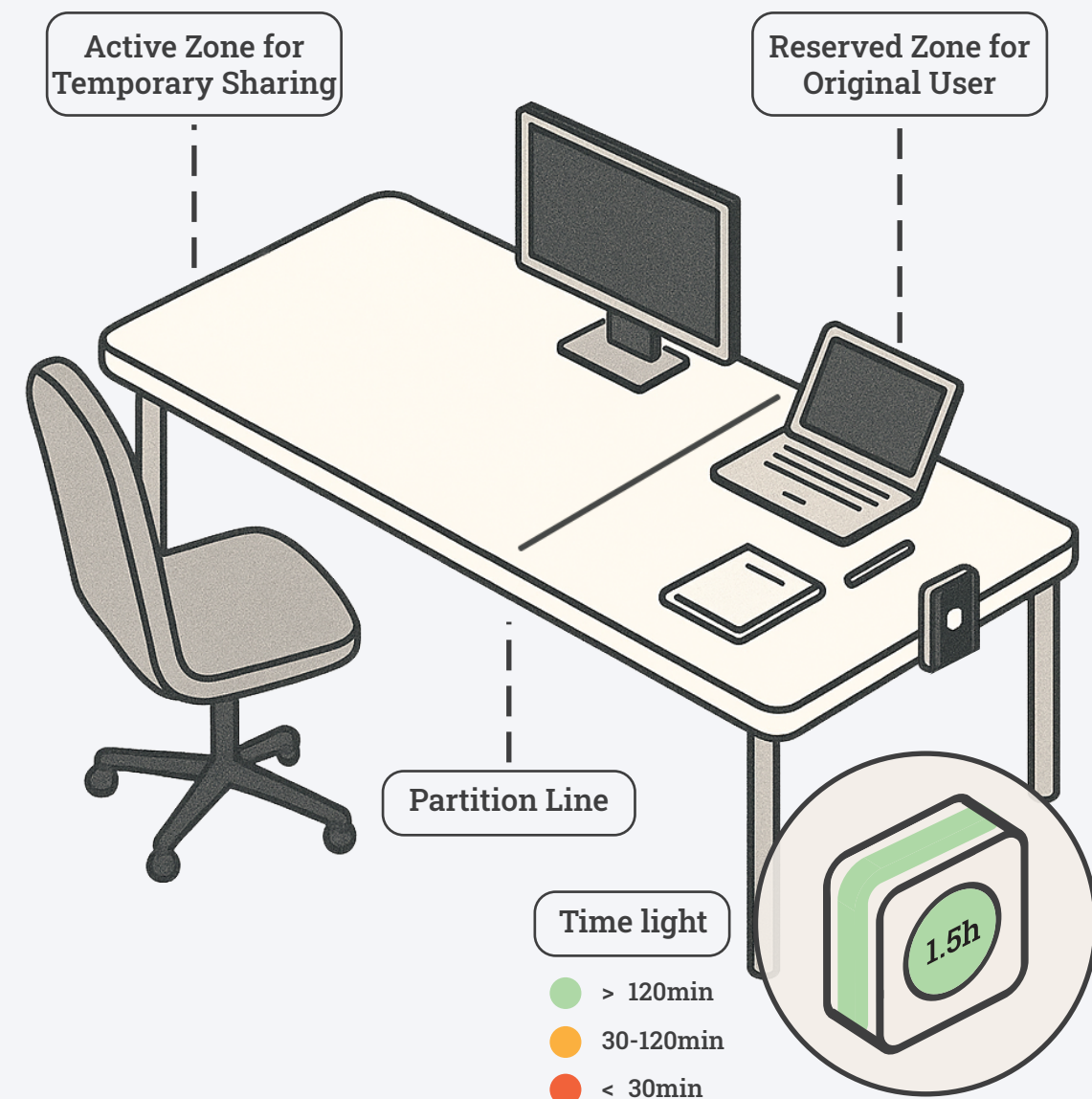


Figure 5-4 ShareBar

The ideal use case is as follows: Suppose the original desk user is about to leave for 2 hours but still wants to return to work here. Currently, they tend to ignore the rules for cleaning the desk and “*handdoek leggen*” (referring to placing a towel on the spot to occupy it) in the room directly. With the ShareBar, they can move all personal items behind the partition line (note that the policy should specify that laptops must be disconnected from the workstation) to express their willingness to share the workspace. At the same time, they should set the timer for their departure, allowing them to leave with peace of mind without worrying about the workspace being occupied or personal items being disturbed. Everything will remain exactly as it was when they left. For temporary users, when they are looking for a workspace on the floor, the light strip facing the corridor can clearly communicate the availability of each workspace, helping them find a workspace.

5.4 Concept 2: Lightweight Login System

The concept of the lightweight login system aims to expand implicitly the behavioral habit of fixed workspace into area-based habit (i.e., expanding Level A spaces from original enclosed cubicles to regional spaces described in design guideline), extending knowledge workers' psychological anchors from specific rooms or workstations to broader areas and establishing a partial flexible internal space-sharing mechanism within teams. In the existing workplace, due to the inherent attributes of enclosed cubicles and the still significant proportion, most knowledge workers continue using enclosed cubicles as their base. The lightweight login system, based on areas, allows users to log into specific areas, thereby gaining relatively stable usage rights, and organically forming team-based anchors through long-term practice, establishing a sense of familiarity and stability within the area.

The lightweight login system's process is concise. It transforms the specific workspace reservation in WMS into a regional login and only applies to desktop workstations. First, select the login on the introduction page, which directs to the home page, i.e., area selection. The home page displays options to switch floors and a floor plan for the selected floor. The selectable floors are limited to the user's organizationally dedicated and shared floors. On the floor plan, the selected floor is divided into several areas, which can be considered Level A spaces in the design guideline, i.e., anchors. These anchors show the expected crowding level based on the number of logins and will lock areas where the number of logins exceeds capacity. In this way, users are set with expectations of crowding from the start, reducing their perceived occupancy. Finally, when users select the areas, they are automatically randomly assigned a workspace (the assignment mechanism can be cancelled after team-based anchors are formed).

From the user's perspective, the system's scenario is limited to getting to the office. It supports pre-locking 2-3 hours in advance and activating the pre-lock when they enter the office and swipe the card. Such a mechanism ensures that users only log in when needed, can accurately set an expectation for crowding, and provides users with certainty, reducing their space anxiety. The workspace will only become available again after users swipe their card to leave. From the perspective of the Vlek generation, although the anchors defined by the system initially seem chaotic and disorganized, the arrangement and login system give users sufficient autonomy. Through long-term space adaptation, the team anchors will organically form based on the designated areas, creating a space that is free yet provides a sense of belonging and familiarity.

This system is built upon key insights into adopting new technical tools and user behavior patterns within the Turfmarkt building, due to the complexity and unintuitiveness of the technology, and the overly advanced space usage mechanism implied by the technology, leading to user resistance and their exploratory adaptations. Additionally, users are found to prefer to stay in the same location all day and favor moving around the office to search for a workspace, even when WMS displays the availability of all workspaces. This system attempts to build a bridge between technology and users, guiding them to adopt the desired space mechanisms through a user-friendly and straightforward operational logic.

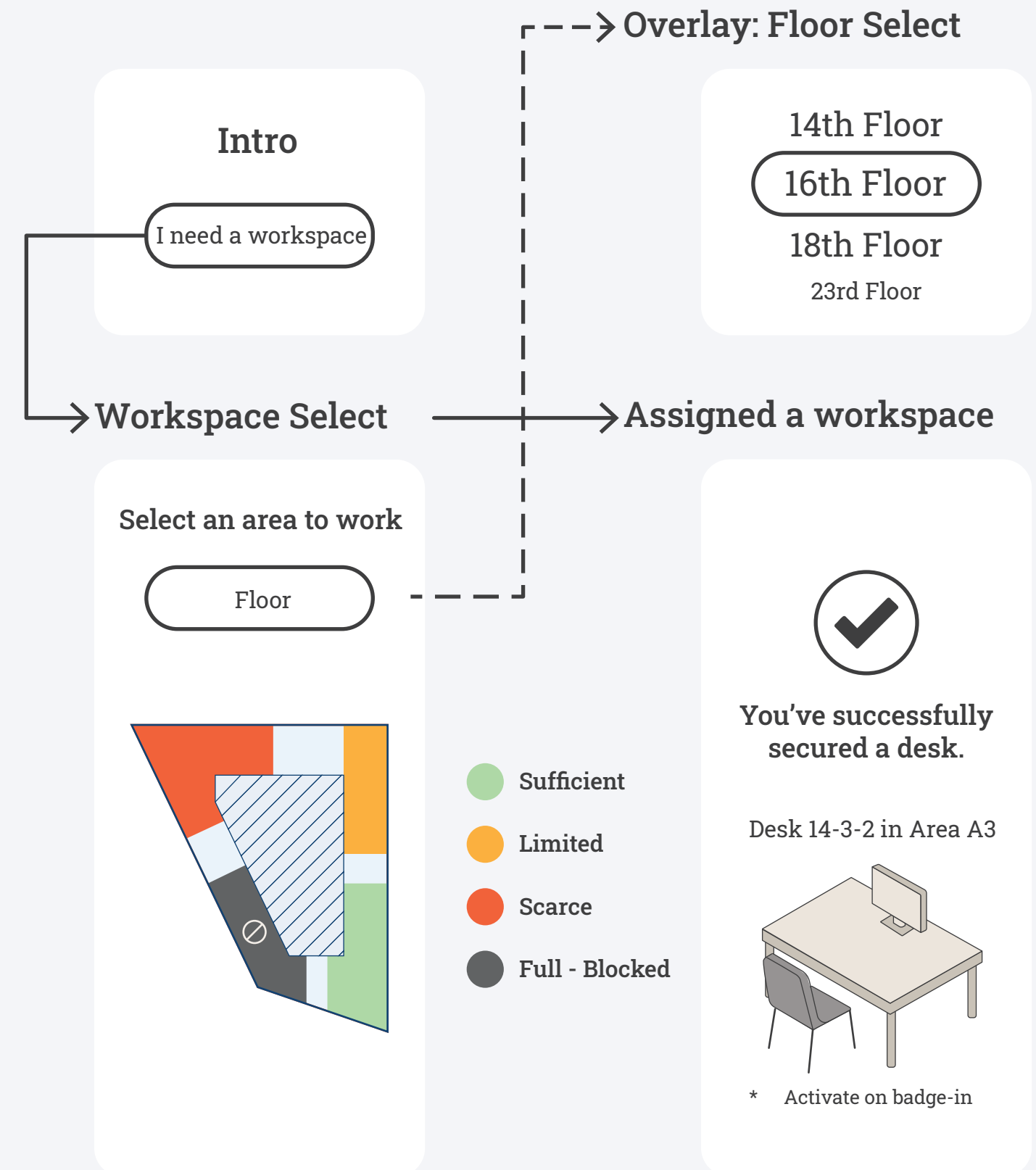


Figure 5-5 User flow of lightweight login system

5.5 Concept 3: Decentralized Space Governance

The concept of a decentralized space governance system aims to alleviate the pressure on Dienstencentrum to handle space-related issues by transferring part of the WMS’s management authority to various organizations, giving them autonomy to customize their own space and usage mechanisms. During the Reshuffle process, Dienstencentrum not only encountered significant user resistance when implementing the new space sharing policy and WMS as a technical tool (as previously discussed) but was also overwhelmed by countless personalized requests from various organizations and individuals, lacking the capacity to deal with these requests. The combination of user resistance and insufficient operational capacity led to the failure of the entire policy framework. The decentralized space governance system partially distributes the originally centralized space management responsibility and capabilities to each organization, enabling them to make fine-tuned adjustments within their own spaces without having to pass all issues to Dienstencentrum. This gives organizations the ability and autonomy to manage their own spaces, promotes their sense of place identity, and reduces the workload of Dienstencentrum.

The core of this system is to transfer part of the space access and disable permissions originally from Dienstencentrum, as well as the live occupancy checking and reservation permissions for workspaces originally from users to individual organizations, with the directors or secretariat responsible for management. This is equivalent to delegating the original Dienstencentrum authority to the users, with their respective organizations acting as custodians. In this system, whether a workspace is open to be flexible, the degree of flexibility, and which spaces apply what level of flexibility can be determined at the organizational level on organizationally dedicated floors.

Both the organization itself and its employees can negotiate and coordinate internally to determine the appropriate degree and scope of flexibility for each space on their floors. The delegated space permissions to the organizations enable the organizations and employees to have such abilities. This practically supports the gradient of spatial flexibility outlined in the design guideline.

In practice, for example, from the organization's perspective, an organization could lock down an entire dedicated floor, specific rooms, or areas due to the highly private nature of their work, ensuring exclusive use of these spaces. Alternatively, the organization could lock down an open-plan work area to meet the demand due to the need for intensive physical work by a specific team or project for a certain period (weeks or months). From the employee's perspective, their diverse needs for various workspaces can be addressed more quickly and more streamlined through their directors or secretariat, shortening the time to receive feedback and fulfill their needs, thereby improving their perceived occupancy and satisfaction with the office workplace. From the perspective of Dienstencentrum, the difficulty of meeting the diverse needs of different organizations and employees can be significantly reduced due to decentralized authority, which lowers the complexity and effort it takes to manage and operate the workspaces while enhancing the satisfaction of both organizations and employees.

How can floors be governed locally?

Delegate part of the WMS permissions from Dienstencentrum to each Directorate, allowing them the flexibility to set floors/areas, negotiate internally, and resolve issues locally.

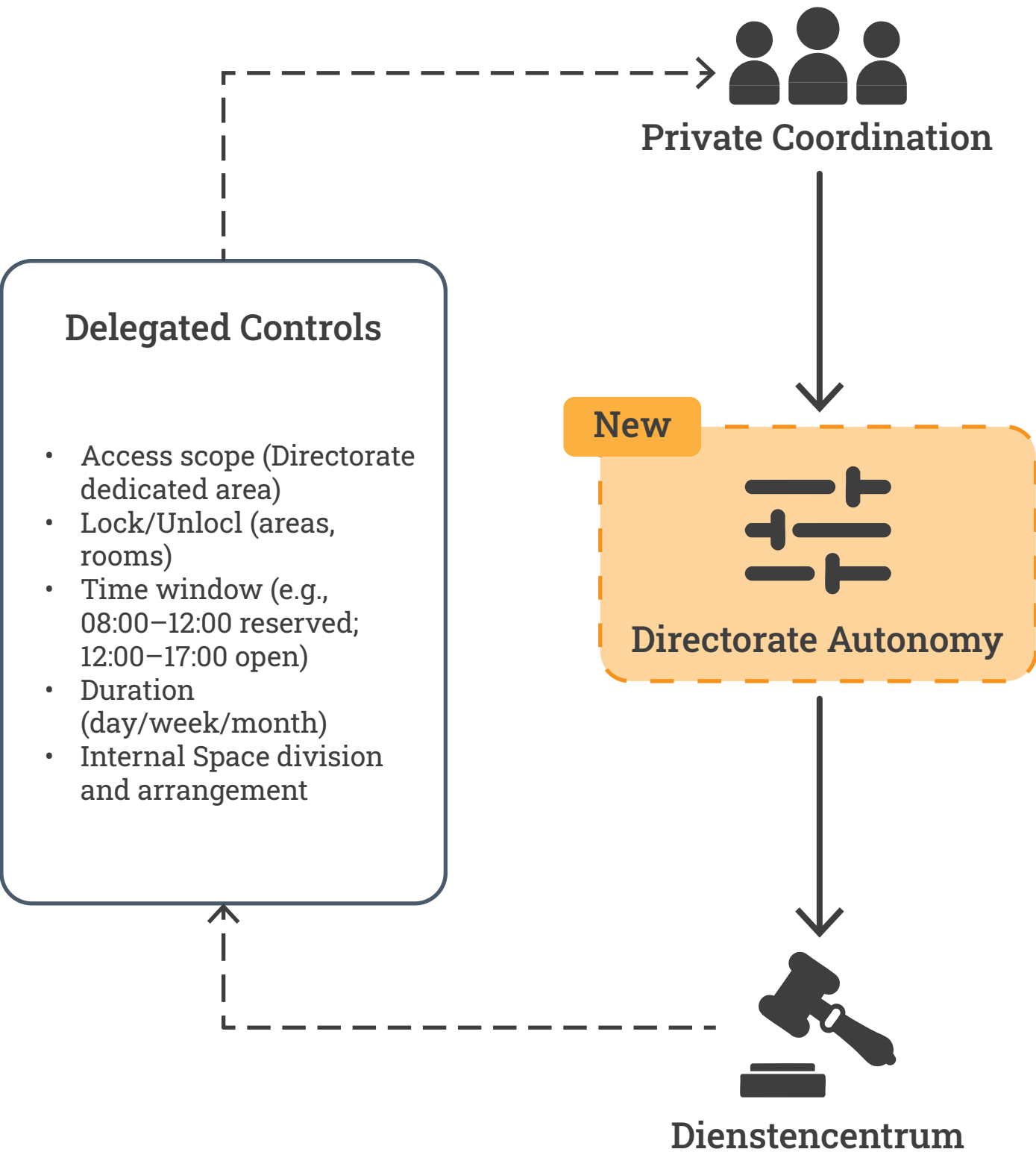


Figure 5-6 Decentralized space governance

5.6 Concept 4: Adaptable Booth

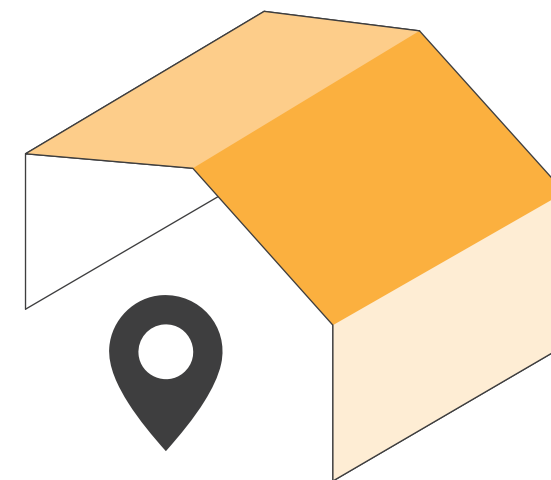
The concept of adaptive booth aims to provide a complementary space for the existing highly segmented space configuration, enhancing the resilience of the workplace, especially anchors, while serving as a flexible boundary to achieve a gradual transition. As previously discussed, the rigid segmentation of space functions severely affects workflow smoothness in the current workplace ecology. As a result, when establishing a new workspace ecology (gradient-flexible workplace ecology), people's "base-camp" behavioral characteristics are acknowledged, and space functions are clustered. Under the new ecology, the original spatial forms can basically still accommodate supportive and independent spaces to fulfill their function clusters. However, anchors currently exist almost only in the form of open-plan workspaces and enclosed cubicles, which necessitates the introduction of adaptive spaces to fill the gap between the original capacity and the requirements for the gradient-flexible workplace ecology, changing the existing spatial form to support the new ecology.

The form of adaptive spaces can vary, but they can all be regarded as a type of semi-enclosed booth (with movable partitions as auxiliary facilities). Existing doors of some multi-person desktop work cubicles can also be removed to create adaptive spaces. The content of adaptive spaces can change according to different needs, so the use of movable modular facilities as building elements is advocated. There are two main scenarios: first, in Level A spaces as psychological anchors, deploying adaptive spaces within type A spaces and giving employees full authority to customize the internal space, so that this space can provide emotional connections for each anchor team. Second, it serves as function-driven transition zones to enhance the overall resilience of the workspaces. In this case, the adaptive space is functional but not single-functional; its main functions are

accommodating overflow from normal desktop work on busy days, casual social interactions, or small team collaboration and communication.

From the user's perspective, they can arrange this space as an area for team or organization cohesion by decorating it with items characteristic of the team or organization, thereby establishing a sense of place identity and marking the area as exclusive to the team. Alternatively, a more general approach is to set it up as a flexible space to accommodate the overflow functional needs of Level A and B spaces. While the combination of long benches and worktables may not be as suitable as functional dedicated spaces for individual functions, the advantage is that it can accommodate and quickly switch between different functions, such as normal desktop work and casual social interactions. Such spaces are almost absent in the existing office environment. From the organization's perspective, these spaces are highly modular with reconfigurability far exceeding that of enclosed cubicles built with walls, enhancing space adaptability and reducing the cost of each transformation in the future of hybrid work and flexible sharing.

This type of space also serves as a preparatory stage for achieving higher flexibility. Currently, enclosed spaces in the office mostly function as simple desktop workrooms. Both in terms of spatial form and symbolic meaning, they are not conducive to the transition of office spaces toward flexible sharing mechanisms. This simple adaptive space provides the workplace with high functional resilience under a flexible mechanism. Unlike the enclosed cubicles and other single-function workspaces in the existing ecology, it ensures space flexibility and fluidity while accommodating different work needs and activities. Moreover, it can invisibly promote a shift in people's behavioral habits and mindset towards flexible space-sharing.



Anchor-Supportive Space
seam / Inside Anchor

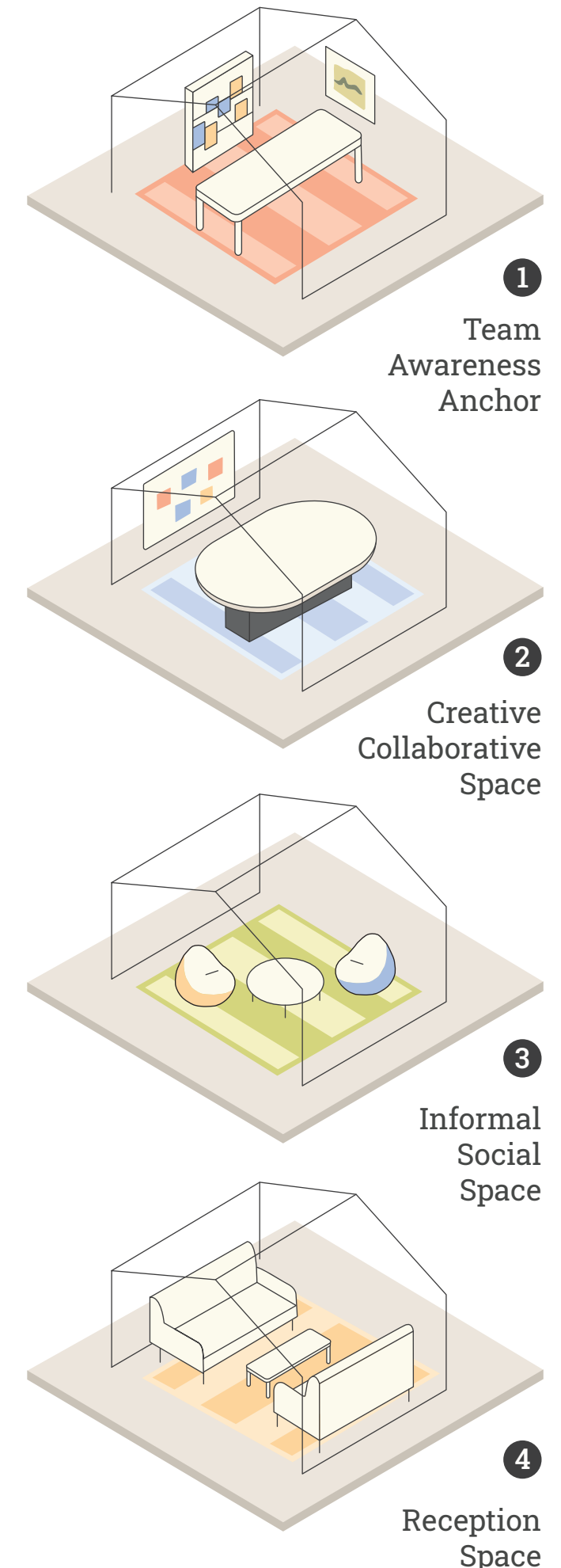


Figure 5-7 Four archetypes of adaptable booth

6. Evaluation

This chapter synthesizes client feedback gathered during reviews of the FlexScape ecology and design concepts, and attempts to answer two core questions the client raised regarding the design deliverables through strengthening the integration between the concepts and FlexScape ecology. The answer explains how this ecology gently steers human behavior in everyday use, providing a mechanism of progressive governance that gradually nudges a balance between organizational intent and human behavior.

6.1 How do the concepts fit into the FlexScape ecology?

6.2 How to ensure people will use the designs as intended?

In the final phase of the design process, the design deliverables were presented to the client managers, who provided feedback on it. They believed that the gradient flexible framework would help adjust the entire workplace ecology and contribute to future reduction in workplace factor from 0.7 to 0.5 and flexible sharing pattern. The concept of the sharebar was most appreciated because it was simple and feasible enough for quick experimentation and feedback. The concept of distributed space governance was theoretically attractive, but might pose technical issues in practical implementation, and the proportion and types of authority delegation still required further research. The lightweight login system was considered difficult to implement because, during this research process, the organization passed a decision to promote the use of WMS in all government office buildings. Thus, the implementation of the lightweight login system would have to be done through the WMS system, which might be considered an unnecessary and redundant expense given that the WMS itself already has sufficient functionalities. The adaptive booth was the only concept that involved adjusting existing spaces, and the client managers considered it a “nice to have,” but doubted its priority given that the main contradiction at present remains the shortage of available workstations.

In addition to the specific feedback on each concept, the account manager raised two key questions: 1) How do the concepts fit into the FlexScape ecology? 2) How to ensure people will use the designs as intended?

To answer the questions, we reinforce the FlexScape ecology with a precise concept-to-ecology mapping. Then we explain how this ecology facilitates behavioral change in practice.

6.1 How do the concepts fit into the FlexScape ecology?

The client manager's question served as an excellent complement to the areas not yet clarified in the design phase, specifically the relationship between the design concepts and the FlexScape ecology. This relationship can be illustrated through Figure 6-1.

The concept of ShareBar, Decentralized space governance, and Adaptable Booth are presented in the figure using different forms of symbols. First, the symbol of ShareBar is a coordinate, meaning it functions specifically within supportive spaces. According to the FlexScape design, the number of original enclosed desktop cubicles will be reduced, and the remaining ones will deploy ShareBars to facilitate the sharing of this type of space. The deployment of ShareBars aims to enhance the agility of enclosed desktop cubicles as supportive spaces, allowing them to achieve the moderate agility intended in the design.

Second, the two arrows representing the adaptable booth point to the intersection of the anchor and supportive space, and inside the anchor, respectively. This means that the adaptable booth can function in these locations. When people choose an informal social space or a creative collaboration space, the adaptable booth can act as a flexible boundary between the anchor and the supportive space, accommodating the personalized needs of the team and ad hoc work activities. When people choose a team awareness space, the adaptable booth can strengthen the anchor's attributes, enhancing the user's connection and sense of belonging to that anchor. In this way, the adaptable booth creates a flexible boundary for this ecology and enhances the anchor's attractiveness as a team stronghold.

Finally, the circular arrows of the decentralized space governance concept surround the entire ecology, indicating its ability to act upon the entire ecology. The core of this concept lies in delegating partial space authority to each directorate, thereby achieving bottom-up autonomy. The delegated authority covers every gradient zone from anchor and supportive space to independent space.

Therefore, this governance model enables employees and teams to self-govern their various types of spaces. Of course, this autonomy is within a certain scope, and Dienstencentrum needs to determine the scope for both parties. Decentralized space governance empowers employees and teams, encouraging their active participation in the construction and adjustment of the ecology.

6.2 How to ensure people will use the designs as intended?

When manager ask, “How do you ensure people use this design as intended?” the question often implies a default assumption: the successful implementation of a system depends on the perfect cooperation of its users. This assumption reveals a core contradiction in top down system design: even if the system is logically rigorous and structurally sound, it can still fail if people refuse to accept and adopt it, misunderstand its intentions, or deviate from it in practice.

By decentralizing the power and responsibility of space to grassroots teams to promote autonomy, FlexScape transform behavioral uncertainty into an evolutionary driving force. It does not demand perfect use of the space but rather refines itself gradually through real-world application. It's not about people adapting to the space, but about the space responding to people.

People inevitably experience friction, social norms, and informal rules in their daily practice. Therefore, if we expect users to precisely follow the designer's script, the answer will ultimately be no. This is precisely why the FlexScape's implementation does not depend on whether the design is “all-encompassing,” nor does it prioritize “better service” or “excellent experience” as its core design direction. Instead, the focus is on whether it resonates with people. FlexScape is not a top down system that is forcibly implemented, it is a workplace ecology that can be co-created. In this context, a decentralized, self-governing structure is especially crucial. Employees not only have the right to use the workplace but also bear the responsibility of maintaining the orderly operation of the system. They are not passive users or experiencers, but active shapers and regulators. This means that FlexScape does not attempt to suppress the uncontrollable aspects of human nature, but rather embraces the complexity of real-world behavior. It makes “correct behavior” the “easiest choice” by setting resilient space designs and intuitive mechanisms. The system's rules are not enforced externally, but rather achieve a state of mild constraint coexisting with high autonomy by aligning with human behavioral logic.

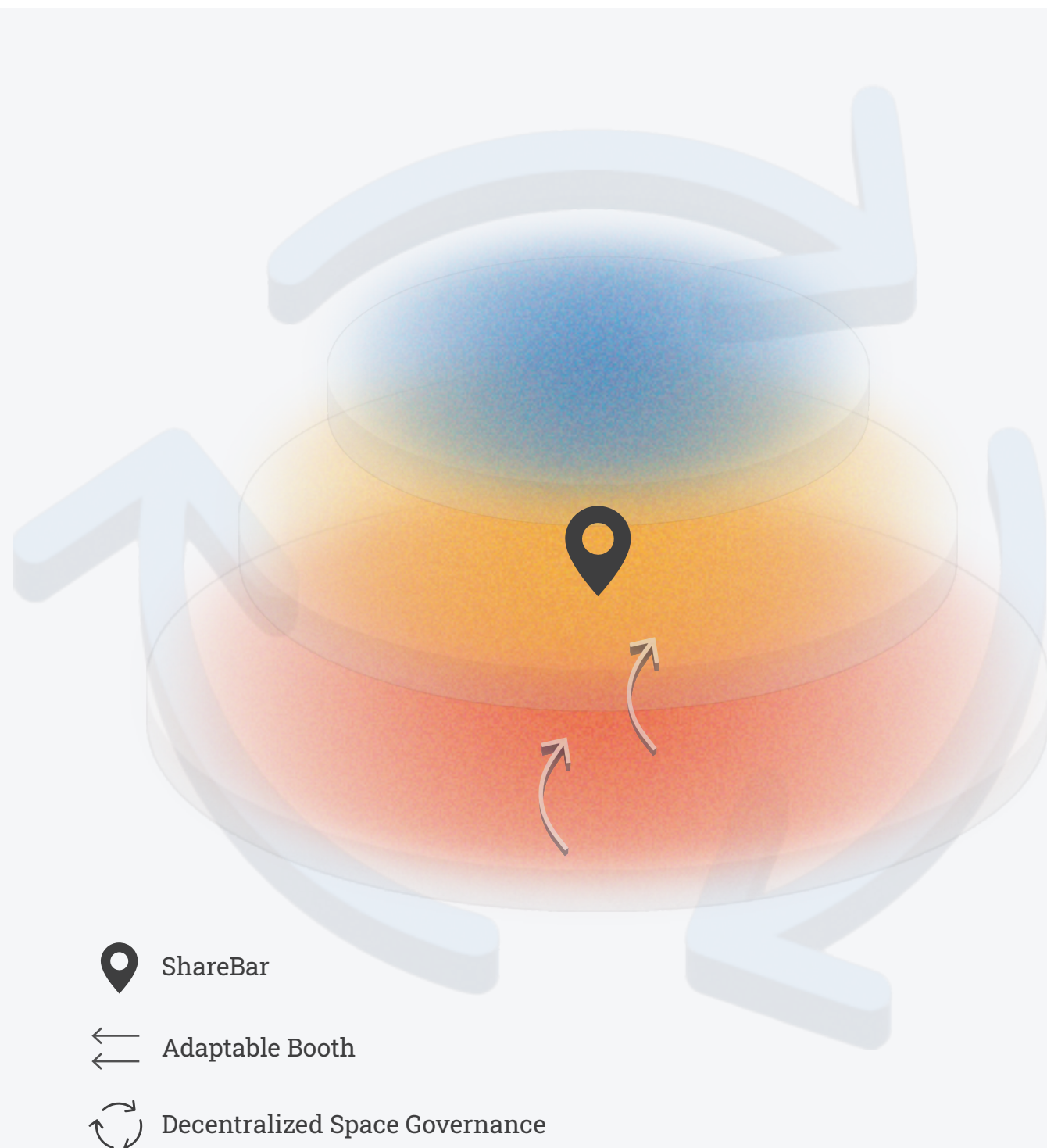


Figure 6-1 Positioning of each concept in flexscape

7. Summary

This chapter synthesizes client feedback gathered during reviews of the FlexScape ecology and design concepts, and attempts to answer two core questions the client raised regarding the design deliverables through strengthening the integration between the concepts and FlexScape ecology. The answer explains how this ecology gently steers human behavior in everyday use, providing a mechanism of progressive governance that gradually nudges a balance between organizational intent and human behavior.

7.1 Key Outcomes

7.2 Limitations

7.3 Recommendation

7.1 Key Outcomes

Solve the human behavior riddle

The research, through a robust and reliable case study design incorporating various research methods, deeply explored the current workplace experience of the Turfmarkt North tower. It revealed the current workplace's fragile and imbalanced status quo from aspects such as space interactions, employees' emotions, and workplace resilience. These issues collectively impact the perceived occupancy experience. By evaluating perceived occupancy, this research identified the gap between objective data and subjective experience, specifically the gap between the sufficient space shown in data and the frequent complaints and dissatisfaction.

This study established the conceptual framework for workplace ecology, through which research findings and insights were reviewed, revealing the core contradiction: the mismatch between the workplace ecology as defined by policy and its practical implementation. This mismatch is manifested in every element of workplace ecology, leading to drastically different spatial usage between theoretical design and reality. At this point, the question raised in the proposal can be answered. The answer to the riddle of human behavior lies in the formulation of advanced office policies that are vastly different from behavioral inertia, and in the fierce confrontation with people, characterized by top-down enforcement and bottom-up resistance and non-compliance.

Develop a new workplace ecology

Based on research findings, a new workplace ecology proposal has been developed for the Turfmarkt, with the core objectives of: 1) leveling the behavioral inertia of employees with the forward-looking nature of organizational goals, creating a balanced intermediate zone for the workplace, and 2) introducing the concept of employee self-governance, establishing effective bottom-up momentum by empowering employees and teams. This ecology takes a holistic view of the interconnection and dynamic balance among various elements within the workplace, aiming to shape a resilient, future-oriented workplace.

Provide practical design concepts

In addition to the overall workplace ecology, this study also provides the Dienstencentrum with some specific, quickly implementable design concepts. These concepts cover a range of aspects, from spatial layout to simple shared equipment in rooms, to employee login systems, offering practical solutions from various touchpoints in user journey. At the same time, these concepts can be well integrated into the overall ecology, and can serve as a pilot and starting point to optimize the workplace ecology.

7.2 Limitations

Limited Authorization for User Data Collection

During the research data collection process, there was a lack of formal data collection with employees in the office. Instead, interview data as secondary data was used and centrally collected by Dienstencentrum. Considering the relatively comprehensive data provided and avoiding information distortion caused by employees' negative emotions because of the interview saturation, this study does not supplement additional formal participatory data. Random, informal chats were used to verify and supplement the secondary data. Nevertheless, the lack of the most recent data (the data time span was quite large) affects the timeliness of the research. It cannot rule out the possibility of changing employee attitudes towards the transformation. Moreover, the lack of formal communication and co-creation opportunities with employees also makes the basic premise of being "employee-centered" vulnerable.

Design Proposal not Widely Validated

During design phase, it was not possible to formally announce and widely discuss the design proposals with employees due to government procedures. To address this limitation, this study actively engaged in discussions with Dienstencentrum personnel and informal discussion with employees, evaluating the effectiveness of the design proposals. Preliminary conclusions indicated that the proposals could effectively solve problems and were acceptable to employees. Nevertheless, the lack of widespread and formal discussion weakened the generalizability of the design results.

Design Concepts not Receiving Trail Feedback

Due to limited time, the design concepts remain at the conceptual stage and have not yet entered the delivery phase to obtain user feedback. The design results of this study include specific product designs to help employees share spaces, such as the ShareBar. Although these designs have complete conceptual frameworks, they lacked actual product prototypes and user tests. It's unclear whether these products would function as intended to improve the sharing experience and efficiency, which weakened the designs' effectiveness and generalizability.

7.3 Recommendation

Guide Employees Towards Institutional Autonomy

It was clearly discovered that autonomy plays a significant role when employees facing major changes. For example, when space was extremely tight, employees improved workspace efficiency through mutual understanding; when regulations prohibited leaving personal items at workspaces, they decorated inconspicuous public corners, such as window sills. These behaviors created autonomous spaces under rigid systems.

While hybrid work has become popular, human-centered research firmly grasps the core discourse. However, when people mention user-centered, they often discuss better service and better experience, neglecting the subjectivity of individuals within the workplace ecology. This means that people are not just using the workplace but, more importantly, influencing and shaping it. Currently, such influences and shaping lack legitimacy and corresponding institutional guarantees, leading to tensions between these creative behaviors and policies, appearing to be a "bottom-up" challenge to policy.

The study demonstrates that user-centered should be further defined: guiding employees towards workplace autonomy and gradually establishing autonomous ecology, where employees and managers share governance responsibilities, thereby resolving conflicts and achieving ecological balance in the workplace.

Promote Synchronized Transformation between Humans and Technology

The development of digital technologies has fundamentally transformed the workplace, creating more possibilities for it. The subsequent question then becomes: "Are people ready for this?" The study demonstrates a significant contradiction between employees and their workplace: management designed an overly flexible space-sharing policy with hybrid office technology, but employees were not yet ready to achieve such high flexibility. This led them to space anxiety and chaotic sharing experiences, resulting in dissatisfaction and complaints.

When implementing new technologies, teaching people how to use it is easy. However, when a series of changes follow, and the workplace ecology faces systematic technological innovation, people must transform alongside them. Otherwise, it leads to an imbalance between people and technology. Therefore, understanding, communication, and co-creation become particularly important, and managing the synchronized changes of people and technology is the guarantee for maintaining the balance of the workplace ecology.

While pursuing workplace efficiency, leave room for people's emotions

"I feel unwelcome here..." Employees have accused the change of harming people's feelings. At the same time, managers are puzzled: "Why would employees develop feelings toward the workplace? People can also work in a corner of a café or a library — would they form attachments to those places too?"

This study shows that employees do indeed need the workplace to take on an emotional role: when policies do not allow employees to leave personal items at desks, the decorations left in inconspicuous public corners are the best proof. In the context of hybrid work at Turfmarkt, the office is no longer just a physical space for work activities; it is also expected to be a physical anchor for identity construction and emotional rooting. On the one hand, the workplace, as an important social identity for employees, carries significant emotions, and these emotions need to be released in the space, thus deeply linking the space with the self (Ashforth, 2024); on the other hand, the workplace also carries positive interactions and a sense of belonging between people and the organization, as well as social interactions with colleagues. Even just having a coffee together during work breaks are important social activities, accompanied by the generation of emotions and organizational belonging.

As hybrid work reduces the frequency of employees coming to the office, their need to establish an emotional connection with the work environment becomes even more important. Without this emotional bond, the office risks becoming a neutral transit point rather than a meaningful part of employees' work lives. Therefore, while pursuing workspace efficiency, it is more worthwhile to consider how to leave room for emotions.

Reflection

The moment has finally arrived! I can't believe I made such a giant leap in six months. Through continuous in-depth exploration, creating cognition in my mind, and breaking down and reconstructing, this complex, chaotic, and massive problem finally seems to have been unraveled, like peeling away layers of silk. This has been a process of constant mental refinement; from the very beginning, when I wrote the project brief with an almost empty mind, struggling to put words on paper, to now, with an endless stream of ideas forming in my mind as I write. I can clearly feel my understanding gradually deepening and becoming richer.

During this process, I also encountered difficulties several times. At the beginning, facing the massive office building system, I was almost at a loss, without direction, and keen on establishing abstract theoretical frameworks to help me understand this complex and intertwined system. However, I often found that the frameworks in the literature were always hard to perfectly match the specific circumstances of this building. What saved me from these abstract concepts was truly entering the site, observing, listening, and discovering. When I was truly immersed myself inside the office workplace, the complexity and entanglement of the real situation naturally became more captivating. What followed was the next dilemma: I once again became lost amid the diverse, complex site conditions and the mass of documentary data. This magnitude of data was something I had never experienced during my student days, which pushed me to start attempting to coordinate, classify, and comprehensively analyze massive amounts of data. This was a painful process, but looking back, I am now able to independently handle such a wide variety of data, and I am very proud to be able to extract genuinely valuable insights from it. I think this is the most important growth I achieved during this graduation project.

People always ask me, "You're a designer, so what do you design?" Sometimes I find it hard to answer, especially regarding this graduation project. Am I designing spaces? Or am I designing systems? I think it's both, and neither. I believe that as a designer, my core value is design thinking. In this project, this might include a user-centered mindset, participatory research methods, the ability to tell stories visually, and so on. I used design thinking to provide clients with a new perspective for discovering, understanding, and solving problems. So in the future, I'll probably answer: I may not design a specific product, but I engage with real-world problems with design thinking as my core approach.

Reference

- Appel-Meulenbroek, R., Groenen, P., & Janssen, I. (2011). An End User's Perspective on Activity Based Office Concepts. *Journal of Corporate Real Estate*, 13(2), 122-135.
- Ashforth, B. E., Caza, B. B., & Meister, A. (2024). My Place: How Workers Become Identified with Their Workplaces And Why It Matters. *Academy of Management Review*, 49(2), 366-398.
- Bencsik, A., & Juhász, T. (2023). The Impact of Technostress on Organizational Functioning. *Problems and Perspectives in Management*, 21 (1), 230-241.
- Barber, A. (n.d.). News Release: Office Occupancy Trends Rise, but Hybrid Working Remains Dominant. <https://return.remitconsulting.com/resource-centre/52-office-occupancy-trends-rise-but-hybrid-working-remains-dominant#:~:text=,upon%20returning%20to%20the%20office>
- Birks, M., Mills, J. (2015). *Grounded Theory: A Practical Guide*. 2th ed. London: SAGE Publications.
- Brouwers, G., Niekel, M., Arkesteijn, M., Colenberg, S., & Hoekjen, H. J. (2024). A Review of Factors Influencing Employees' Experience of Occupancy in the Office. In *Twr Conference 2024* (pp. 477-490). TWR Network.
- Charmaz, K. (2012). The Power and Potential of Grounded Theory. *Medical Sociology*, 6(3), 2-15.
- Chun T., et al. (2019). Grounded Theory Research: A Design Framework for Novice Researchers. *SAGE Open Medicine*, 7, 2050312118822927.
- Ciesielska, M., Boström, K.W., Öhlander, M. (2018). Observation Methods. In: Ciesielska, M., Jemiłniak, D. (eds) *Qualitative Methodologies in Organization Studies*. Palgrave Macmillan, Cham.
- Creswell, J. W., Poth, C. N. (2018). *Qualitative Inquiry and Research Design: Choosing among Five Approaches*. London: SAGE.
- Creswell, J.W. (1994). *Research Design: Qualitative and Quantitative Approaches*. London: Sage Publications.
- Education, I. (2025, June 4). What is a knowledge worker? <https://www.ibm.com/think/topics/knowledge-worker>
- Gibson, J. J. (1979). *The ecological approach to visual perception*. Houghton, Mifflin and Company.
- Glaser, B. (1978). *Theoretical Sensitivity*. CA: Sociology Press.
- Goetz J.P., et al. (1984). *Ethnography and Qualitative Design in Educational Research*. Washington: Academic Press.
- Halldorsson, F., Kristinsson, K., Gudmundsdottir, S., & Hardardottir, L. (2021). Implementing an Activity-Based Work Environment: A Longitudinal View of the Effects on Privacy and Psychological Ownership. *Journal of Environmental Psychology*, 78, 101-707.
- Hansson, J., Vinberg, S., Wall, E., & Löfstrand, P. (2025). The Transition to an Activity-Based Workplace: Experiences of Managers and Employees from a Sense of Coherence Perspective in Public Sector Workplaces. *Plos One*, 20(3), e0320324.
- Heath, H., Cowley, S. (2004). Developing a Grounded Theory Approach: A Comparison of Glaser and Strauss. *International Journal of Nursing Studies*, 41(2):141-150.
- Hobson, A., et al. (2004). Why People Choose to Become Teachers and The Factors Influencing Their Choice of Initial Teacher Training Route: Early Findings from the Becoming a Teacher (BaT) Project. University of Nottingham.

Jicol, C., Taulo, G., Goldie, C., Lloyd-Esenkaya, T., Hynes, R., Paradise, C., ... & de Sousa, A. A. (2023). The Effects of Social Density, Spatial Density, Noise, and Office Views on Perceived Personal Space in the Virtual Workplace. *Frontiers in Computer Science*, 5, 1066881.

Kropman, D., Appel-Meulenbroek, R., Bergefurt, L., & LeBlanc, P. (2023). The Business Case for a Healthy Office; a Holistic Overview of Relations Between Office Workspace Design and Mental Health. *Ergonomics*, 66(5), 658-675.

Leonardi, P. M. (2009). Why Do People Reject New Technologies and Stymie Organizational Changes of Which They Are in Favor? Exploring Misalignments Between Social Interactions and Materiality. *Human Communication Research*, 35(3), 407-441.

Maha Shakir. (2002). The Selection of Case Studies: Strategies and Their Applications to IS Implementation Cases Studies. *Research Letters in the Information and Mathematical Sciences*, 3, 69-77.

Maher, A., & Von Hippel, C. (2005). Individual Differences in Employee Reactions To Open-Plan Offices. *Journal of Environmental Psychology*, 25(2), 219-229.

Mick, M., Wettstein, F. (2023) Design at The Edges: A Built Environment Ecotone Model. CELA 2023 San Antonio, 93-104.

Michael V Angrosino. (2007). *Naturalistic Observation*. Routledge. <https://doi.org/10.4324/9781315423616>

Nanayakkara, K., Wilkinson, S., & Halvitigala, D. (2021). Influence of Dynamic Changes of Workplace on Organisational Culture. *Journal of Management & Organization*, 27(6), 1003-1020.

Pearce, B., Hinds, P., Thomason, B., Altman, H., & Winterstorm, S. V. (2023). Cultivating Place Identity at Work. *Organizational Dynamics*, 52(3), 100997.

Qu, X., Zhang, X., Izato, T., Munemoto, J., & Matsushita, D. (2010). Behavior Concerning Choosing Workstations in Non-Territorial Offices. *Journal of Asian Architecture and Building Engineering*, 9(1), 95-102.

Rist, R. C. (1982). On the Application of Ethnographic Inquiry to Education: Procedures and Possibilities[J]. *Journal of Research in Science Teaching*, 19(6):439-50.

Steelcase. (2016). The Resilient Workplace. <https://www.steelcase.com/spaces-inspiration/resilient-workplace/#:~:text=How%20the%20Physical%20Environment%20Can,Help>

Strauss, A., Corbin, J. (1990). *Basics of Qualitative Research: Grounded Theory Procedure and Techniques*. London: SAGE Publications.

Vischer, J. C. (2007). The Effects of the Physical Environment on Job Performance: Towards a Theoretical Model of Workspace Stress. *Stress and Health: Journal of the International Society for the Investigation of Stress*, 23(3), 175-184.

Van de Water, A. J. (2021). Workplace Preferences for Concentrative and Communicative Work: Back to the Office or Keep on Working From Home. A Stated Choice Approach To Determine Workplace Preferences.

Yazan, B. (2015). Three Approaches to Case Study Methods in Education: Yin, Merriam, and Stake. *The Qualitative Report*, 20(2):134-152.

Yin, R. K. (1989). *Case Study Research: Design and Methods*. CA: SAGE Publications.

Zoghbi Manrique Lara, P., & Sharifiatashgah, M. (2020). An Affective Events Model of the Influence of the Physical Work Environment on Interpersonal Citizenship Behavior. *Revistade Psicologiadel Trabajoydelas Organizaciones*.



Ministerie van Justitie en Veiligheid

Proposal for Masters’ thesis project

Period	Februari – July 2025
Place	The Hague

Who can help us solve a human behavior riddle?

The organization Dienstencentrum is part of the Administrative Department of the Ministry of Justice and Security and is responsible for the business operations for this part of the Ministry. We work with various government suppliers such as FMH and SSC-ICT. In addition, the Dienstencentrum manages the accommodation in the Turfmarkt office building, the North Tower.

In recent years, several changes have been made to the layout of the building. On the one hand, these adjustments follow from the government housing policy, which aims to deal with sustainable uses of floor m2 and in which, among other things, a workplace factor of 0.7 has been agreed. And in which the ambition is set to reduce this factor to 0.5. On the other hand, various adjustments have been made after the corona period in which hybrid working has become policy and the office building has preferably become the place where colleagues meet and collaborate. You do the individual work at home.

The aim of the design is to provide maximum support for hybrid working and housing policy. Within the various standards that apply to the design of the building (building regulations, safety standards, architectural frameworks).

Various concepts have been implemented, such as special floors for silent working and collaboration within projects, the design of the work floors and the meeting areas at the company restaurant. Yet we hear many complaints from users of the building about how the office does not suit what they are looking for. (too busy, too little privacy, too few concentration areas). While the figures show that there are sufficient workplaces, even on the busy days of Tuesday and Thursday.

What's going on here? What are people looking for, how do they use the space, how do they behave, what makes their experience different from what we expect? And how should we approach that?
What is needed to meet the employee's needs, but within the set frameworks?

We offer the student guidance, a workplace at the Turfmarkt, access to relevant information, including extensive reports on the current use of the building. Plus a financial compensation.

If you have any questions please feel free to contact us any time.

Appendix 2: Project Brief

DESIGN
FOR our
future

TU Delft

IDE Master Graduation Project

Project team, procedural checks and Personal Project Brief

In this document the agreements made between student and supervisory team about the student's IDE Master Graduation Project are set out. This document may also include involvement of an external client, however does not cover any legal matters student and client (might) agree upon. Next to that, this document facilitates the required procedural checks:

- Student defines the team, what the student is going to do/deliver and how that will come about
- Chair of the supervisory team signs, to formally approve the project's setup / Project brief
- SSC E&SA (Shared Service Centre, Education & Student Affairs) report on the student's registration and study progress
- IDE's Board of Examiners confirms the proposed supervisory team on their eligibility, and whether the student is allowed to start the Graduation Project

STUDENT DATA & MASTER PROGRAMME

Complete all fields and indicate which master(s) you are in

Family name

Initials

Given name

Student number

IDE master(s)

IPD

Dfl

SPD

2nd non-IDE master

Individual programme
(date of approval)

Medisign

HPM

SUPERVISORY TEAM

Fill in the required information of supervisory team members. If applicable, company mentor is added as 2nd mentor

Chair

mentor

2nd mentor

client

city

optional comments

dept./section

dept./section

country

HCD/Form & Experience

DOS/Creative Processes

The Netherlands

! Ensure a heterogeneous team. In case you wish to include team members from the same section, explain why.

! Chair should request the IDE Board of Examiners for approval when a non-IDE mentor is proposed. Include CV and motivation letter.

! 2nd mentor only applies when a client is involved.

APPROVAL OF CHAIR on PROJECT PROPOSAL / PROJECT BRIEF

-> to be filled in by the Chair of the supervisory team

Sign for approval (Chair)

Name

Date

13 03 2025

Signature

CHECK ON STUDY PROGRESS

To be filled in by SSC E&SA (Shared Service Centre, Education & Student Affairs), after approval of the project brief by the chair. The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total

EC

Of which, taking conditional requirements into account, can be part of the exam programme

EC

★

YES

all 1st year master courses passed

NO

missing 1st year courses

Comments:

Sign for approval (SSC E&SA)

Name

Date

20-03-2025

Signature

APPROVAL OF BOARD OF EXAMINERS IDE on SUPERVISORY TEAM

-> to be checked and filled in by IDE's Board of Examiners

Does the composition of the Supervisory Team comply with regulations?

YES

★

Supervisory Team approved

NO

Supervisory Team not approved

Comments:

Based on study progress, students is ...

★

ALLOWED to start the graduation project

NOT allowed to start the graduation project

Comments:

Sign for approval (BoEx)

Name

Date

25 Mar 2025

Signature

93



Personal Project Brief – IDE Master Graduation Project

Name student _____

Student number _____

PROJECT TITLE, INTRODUCTION, PROBLEM DEFINITION and ASSIGNMENT

Complete all fields, keep information clear, specific and concise

Project title Reshaping the workplace ecology of the Turfmarkt office building

Please state the title of your graduation project (above). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

Introduction

Describe the context of your project here; What is the domain in which your project takes place? Who are the main stakeholders and what interests are at stake? Describe the opportunities (and limitations) in this domain to better serve the stakeholder interests. (max 250 words)

This research is conducted in collaboration with the Dienstencentrum, part of the Administrative Department of the Ministry of Justice and Security. The Dienstencentrum is responsible for managing the accommodation in the North Tower of the Turfmarkt office building, which serves as the primary setting of this research.

In recent years, the Turfmarkt office layouts have been changed to align with hybrid working and government housing policy. On one hand, hybrid working has become the policy after the corona period, transforming the office into a place where colleagues meet and collaborate. On the other hand, the housing policy aims to enhance the sustainable use of office spaces, including an ambition for a 0.5 workplace factor. Various office concepts, such as special floors for silent working and collaboration, have been implemented to support these changes.

Despite these adjustments, users report varied levels of satisfaction. Some find the office conducive to their work, while others complain about privacy concerns, workspace availability, and environmental distractions. However, existing data indicates sufficient workplaces even on busy days. This gap highlights the misalignment between hybrid working and housing policy, the design of the office building, and user experiences. Additionally, discrepancies in feedback from different organizations are also noteworthy.

While existing data presents opportunities to build upon previous insights, it may not fully capture the context's complexity. This research aims to introduce a design-driven approach to explain the complexity and propose change strategies for Dienstencentrum by providing a user-centered perspective and a bottom-up participatory approach to workplace transformation.

→ space available for images / figures on next page

introduction (continued): space for images

image / figure 1

image / figure 2

Problem Definition

What problem do you want to solve in the context described in the introduction, and within the available time frame of 100 working days? (= Master Graduation Project of 30 EC). What opportunities do you see to create added value for the described stakeholders? Substantiate your choice.
(max 200 words)

The hybrid office is a dynamic space where employees constantly navigate digital and physical environments for various work activities. Their interactions, whether with colleagues or within the digital or physical workplace, are not always seamless, demonstrating the misalignment between user experiences and workplace design. To address it, it's important to deeply understand user behaviors and identify underlying needs as the basis for targeted design interventions.

Organizational differences add another layer of complexity, their needs and work patterns vary yet are subject to standardized office design and policies, leading to contrasting feedback. While mere large-scale research may have difficulty accounting for the nuances, generative methods can capture diverse perspectives and uncover context-specific user needs. It provides rich foundations for pinpointing why current designs fall short and how they can be improved.

The government's approach to office governance may be at the heart of the problem. Their priority on standardized procedures and policies would still be rooted in the organizational culture even within flexible layouts (Nanayakkare et al., 2022). However, workplace interactions are fluid and dynamic, shaped by human behavior

Assignment

This is the most important part of the project brief because it will give a clear direction of what you are heading for. Formulate an assignment to yourself regarding what you expect to deliver as result at the end of your project. (1 sentence)
As you graduate as an industrial design engineer, your assignment will start with a verb (Design/Investigate/Validate/Create), and you may use the green text format:

Design a strategic guideline proposing insights and interventions to understand and improve the workplace ecology of the Turfmarkt office building, aligning physical environment, social interactions and behaviors, and organizational culture for Dienstencentrum.

Then explain your project approach to carrying out your graduation project and what research and design methods you plan to use to generate your design solution (max 150 words)

Given the dynamic nature of workplace environments and the variability in organizational needs, Context Variation by Design (CVD) is a suitable approach. The general problem defined spans multiple contexts (i.e., different functional areas and organizational needs) with distinct requirements. Therefore, taking contextual variations into account can make the strategic guideline a flexible and scalable framework for various contexts.

This research begins by analyzing the current workplace ecology within the Turfmarkt office building, utilizing existing investigations from Dienstencentrum as a foundation and providing a horizontal overview. To complement the initial insights with deeper, user-centered perspectives, generative design research methods like contextmapping can be leveraged to uncover user behaviors and envision the intended experiences.

The final strategic guideline will synthesize findings into actionable design interventions for improved workplace ecology, clearly defined lists of requirements for diverse contexts, and incorporate experience prototyping to validate design interventions.

Project planning and key moments

To make visible how you plan to spend your time, you must make a planning for the full project. You are advised to use a Gantt chart format to show the different phases of your project, deliverables you have in mind, meetings and in-between deadlines. Keep in mind that all activities should fit within the given run time of 100 working days. Your planning should include a **kick-off meeting, mid-term evaluation meeting, green light meeting and graduation ceremony**. Please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any (for instance because of holidays or parallel course activities).

Make sure to attach the full plan to this project brief.
The four key moment dates must be filled in below

Kick off meeting 11 Mar 2025

Mid-term evaluation 12 May 2025

Green light meeting 8 Jul 2025

Graduation ceremony 19 Aug 2025

In exceptional cases (part of) the Graduation Project may need to be scheduled part-time. Indicate here if such applies to your project

Part of project scheduled part-time	<input type="checkbox"/>
For how many project weeks	
Number of project days per week	

Comments:

Motivation and personal ambitions

Explain why you wish to start this project, what competencies you want to prove or develop (e.g. competencies acquired in your MSc programme, electives, extra-curricular activities or other).

Optionally, describe whether you have some personal learning ambitions which you explicitly want to address in this project, on top of the learning objectives of the Graduation Project itself. You might think of e.g. acquiring in depth knowledge on a specific subject, broadening your competencies or experimenting with a specific tool or methodology. Personal learning ambitions are limited to a maximum number of five.
(200 words max)

I am inherently curious and fascinated by the future, and my research interest consistently focuses on ever-changing, dynamic and interconnected environments like the workplace. As a crucial physical carrier of work, it is also undergoing a significant transformation that most organizations. I find an intriguing aesthetic appeal to such an environment where various elements intertwine human, behavioral, social, cultural, etc., creating a rich landscape for exploration and design. This research setting of the government workplace aligns with my personal interest and is a perfect sample, allowing me to envision and explore the future of workplace experience.

In practice, I excel at divergent thinking and the exploratory phase, particularly in conducting board investigations, exploring multiple research directions, and generating creative design concepts. However, I find converging and synthesizing more challenging, especially when facing a wealth of potential directions, it's difficult to prioritize and streamline my focus. For this project, the constraints, such as limited access to different office areas, privacy regulations, the slowness processes make it challenging to navigate design process effectively. One key learning goal developing my ability to still make strong, well-supported design even in a highly constrained environment.