

The relocation process into a refurbished work environment: A sample case study incorporating employers' and employees' needs and wishes.

L. Thrainer¹

¹ *Research Group Real Estate and Facility Management, Vienna University of
Technology, 1040 Vienna, Austria*

Keywords:

*Transitioning Processes, Change Management, Hybrid Work Environment, Building
Refurbishment, Users' Participation.*

Abstract:

Relocating a team into new office premises requires successful management incorporating the needs of all those affected. The current case study faced various challenges: moving from larger to smaller premises, retrofitting the structural conditions in the "new" 120-year-old premises, and implementing new working environments that would enable hybrid work. These changes are a significant transition for teams. Change Management and design-thinking allow the combination of methods for transformation implementing processes, including all change steps, that are crucial for sustaining success. The present article deals with a case study documenting all the steps of relocating a research department. Preceding a literature review and using a survey to assess the users' needs, the case study sheds light on a change and design-thinking process incorporating different employers' and employees' wishes. The survey among the later users of the hybrid work premises revealed an amplified wish for facilitated, barrier-free communication among the team. Visiting exemplary office environments dispelled partial scepticism towards activity-based infrastructure, which resulted in curiosity about innovative office furniture and emerging technologies. Finally, implementing new working environments resulted in an optimised layout with high technological standards in a 120-year-old building structure. The presented use case shows an example of implementing sustainability in terms of durability. Concepts like these, which collect needs directly from the people concerned, make it possible to realise changes that are in the interest of those affected and, therefore, require no further far-reaching changes.

1 Introduction:

“Hybrid work” is increasingly essential for modern working culture. When working in a hybrid setup, employees choose not only the premises but also the distribution of the working days in which they work in the office or from elsewhere (Kaufman et al. 2020: 3). Entailing a mix of fully working at the company’s office and other teleworking locations (Kaufman et al. 2020: 3; Farre 2021), hybrid work affects multidisciplinary factors: these range from technological aspects to social and organisational matters (Ganguly et al. 2022). Most obviously, companies strive to achieve high productivity of their employees, which also depends on these aspects. Involving management and employees in transitioning to hybrid work is crucial for the success of wide-ranging changes to office infrastructures. While management considers strategic goals and economic factors (Management Study Guide 2024), the productivity and engagement of the employees ensure a company’s success (van Koetsveld and Kamperman 2011). Only when involving both sides lasting solutions can be developed, which – in a successful case – anchor in long-term implementations. Involving all stakeholders in a workplace transitioning process is a significant task for the management, especially when considering the diversity of employees in a company.

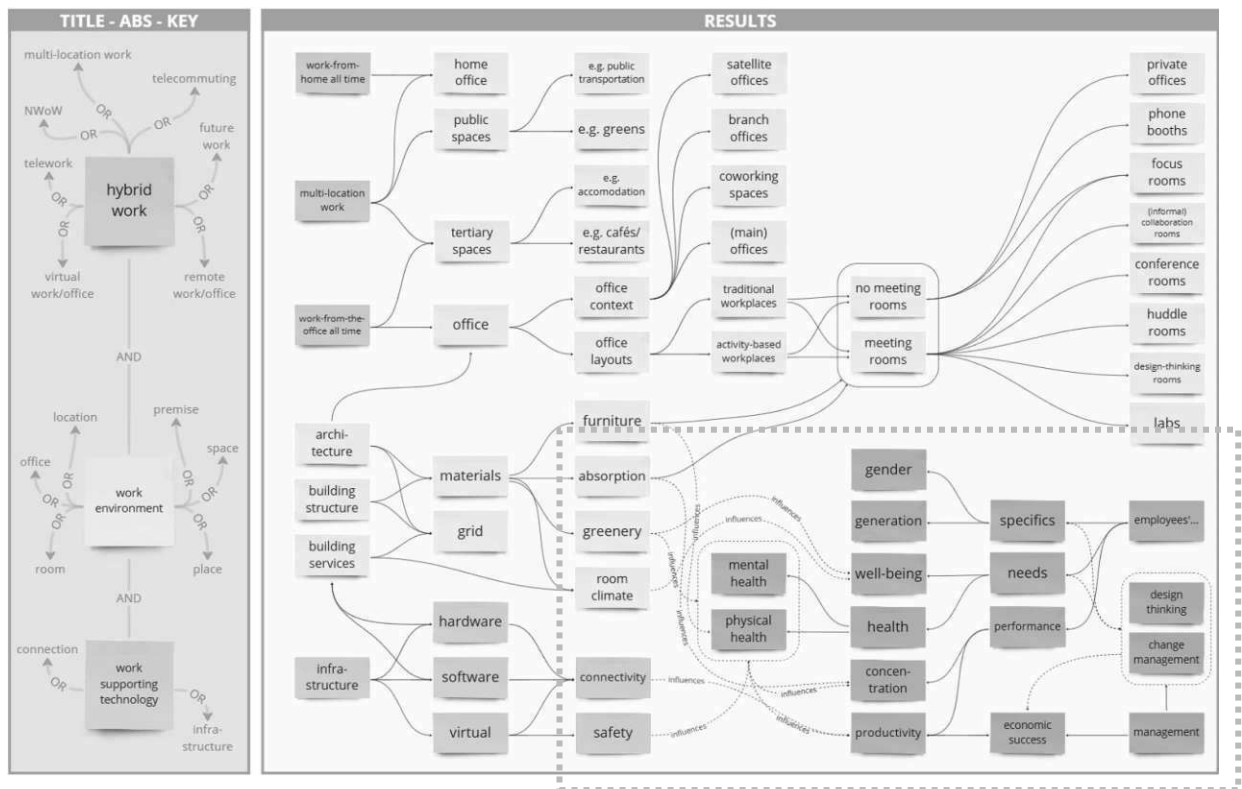


Figure 1. Developed relations among categories from a systematic literature review (SLR). The highlighting rectangle shows the influence of surrounding workplaces on employees - Compilation by the author.

Figure 1 is the result of the author's systematic literature review (SLR), highlighting the influence of surrounding workplaces on employees working within (see the dashed rectangle in figure 1). Focusing on the core issues like personal specifics (e.g. gender (Rodríguez-Modroño and López-Igual 2021) and age (Nanayakkara et al. 2021)) or individual needs (e.g. health (Robertson et al. 2022) and well-being (Aloisi and Stefano 2022: 289)) and performance (e.g. concentration (Chow et al. 2022) and productivity (Naor et al. 2022)), management needs to develop an inclusive approach, supporting the transition to new work arrangements (Hamouche and Parent-Lamarche 2023). Participatory processes help avoid resistance caused by a lack of, e.g. involvement and communication (Lines 2004; Alas 2007). Neves and Caetano argue that employees who recognise that a proposed change measure is in line with their own values are more likely to show commitment and enthusiasm (2009).

While some organisational or structural changes appeal to younger generations, some employees struggle with various adaptations (Haynes et al. 2017). Giving employees a voice and empowering them creates greater acceptance and commitment towards their company (Yaakob et al. 2021). Including employees in decision-making helps building company culture and buy-in for the hybrid work solution. Fostering company culture helps to tie employees to the company, even if the physical presence is lowered for hybrid work (Farcane et al. 2023). Sometimes, implementation becomes complex if the implementation includes technological advances (Skelsey 2013). When expecting difficulties in implementation, companies need to consider all aspects to convince even doubtful employees. Therefore, the main task for management is not just to change the organisation but also to involve the employees in the transitioning process itself (Lines 2004). Few publications provide insight into such transitioning processes applying Change Management and Design-Thinking measures (Smollan and Morrison 2019; Jemine et al. 2020). However, these are not linked to articulated needs and aspirations and solutions applied to them.

Ensuing this need, the present article seeks to provide information on the transitioning processes in context with work environments and their users and aims to answer the following research questions:

- How can employers and companies, their employees, HR, Facility and IT management be supported in developing a hybrid workplace?
- What support do supervisors and teams need when working from different locations?

The paper starts by introducing all applied methods and their correlations. Based on the findings of a Systematic Literature Review (SLR), which identifies general factors that influence employees in their work environment, the paper focuses on relocating a research department. It excerpts relevant results of a rolled-out survey and, applying elements of Change Management and Design-Thinking, presents a relocation case study.

2 Methodology:

2.1 Research Design:

While the author conducted other research steps in context with earlier research (e.g. Inductive Content Analysis (ICA), Systematic Literature Review (SLR), Observation of Field Research (OoFR) and Autoethnography (AE) (Thrainer and Redlein 2024)), additional research steps as part of the research strategy complement the obtained results. The present article excerpts relevant results of a rolled-out Survey stipulating employee's and employer's needs (SUR) and presents a relocation Case Study (CAS), applying elements of Change Management and Design-Thinking. Figure 2 summarises the relevance of all methods applied in this paper.

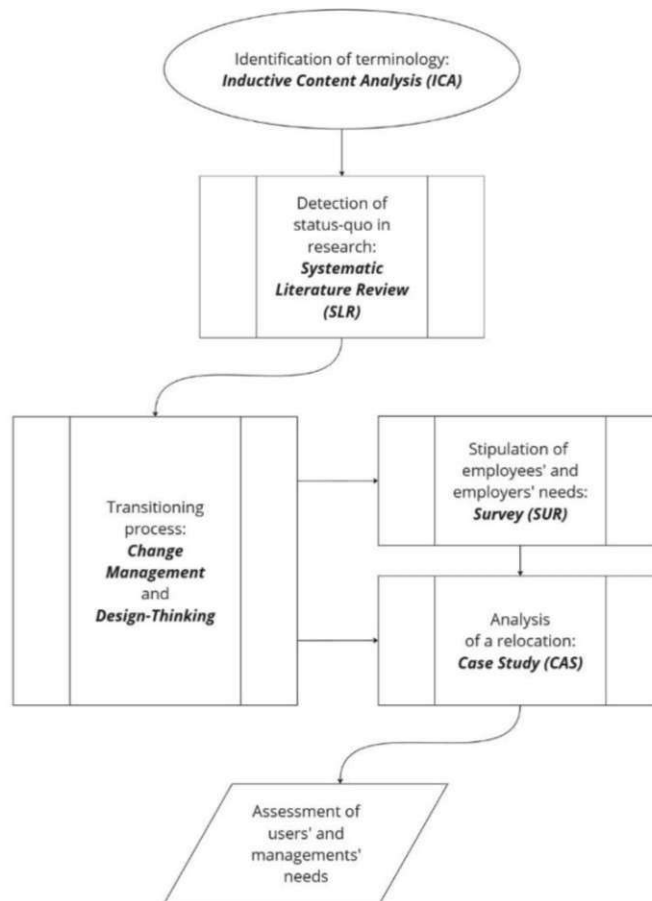


Figure 2. Flowchart expressing the relevance of all methods applied.

2.2 Change Management and Design-Thinking:

There is a variety of Change Management models that aim to implement change in organisations. The present research focuses on Kotter's (1996) 8-step process for leading change, as it allows a detailed yet agile approach that leads change makers through transitioning processes. Compared to other Change Management approaches, Kotters 8-step model (Kotter 1996) offers a very detailed structure, that still allows flexibility for individual scenarios (Schreiber 2024). Supplemental to Kotter's change model – which focuses on the transitioning process inside the organisation – Design-Thinking allows the incorporation of individual stakeholders by allowing an “outside-in” perspective (Husak 2023: 177) – perspectives from the employees themselves. Both approaches complement each other regarding change in an office context.

J. Kotter's (1996) 8-step model starts with creating a sense of urgency for change (Step 1). This step should help motivate action driven by e.g. economic conditions, employee needs, and technological innovation. The process involves all stakeholders to help design and implement the change (Step 2). Collaborating with this guiding team

allows for the creating a vision and strategy for change (Step 3). This is where the Design-Thinking method comes into play. In contrast to hierarchical organisations, Design-Thinking focuses on “*outside-in*” thinking (Husak 2023: 177). Meinel and Thienen describe Design-Thinking of „*using problems and unfulfilled human needs as a resource of inspiration to seek and find better user-centred solutions for the future*“² [translation by the author] (2016: 311). This human-centred approach contradicts a technology- or organisation-centred approach to problem-solving (Kimbell 2011: 287).

In both Change Management and Design-Thinking, communication is crucial for understanding and acceptance among the people affected. An essential part of communication is defining responsibilities, introducing that change will happen, and conveying the benefits of the change while maintaining open communication channels (Step 4). Encouraging people to act and spreading the message by providing resources can further reinforce the momentum for change (Step 5). Change processes profit from achieving and celebrating short-term successes, leading to wider acceptance among the target group (Step 6). Persistence in implementation and continuous adjustments ensure that the change process is driven forward (Step 7). This prevents falling back into old habits (Step 8). After all, the objective is to ensure that the change is implemented convincingly by all those affected to initiate successful and sustainable organisational change. (Kotter 1996)

2.3 Case Study and Survey:

Linking theoretical results to natural practice requires consideration of a contextualised study, the Case Study (CAS). Conducting a CAS often involves triangulation of different data collection methods. Usually, these include data collection such as e.g. questionnaires, surveys or in-depth interviews (Priya 2021: 95). In the case of the presented CAS, a Survey (SUR) and constant feedback sessions provided individual input for the targeted transformation process.

The CAS began with an initial team meeting in July 2020 to discuss the need to relocate a team of ten knowledge workers corresponding to eight full-time equivalents, targeting a completed relocation in December 2020. The team comprises people from different disciplines who each need different equipment to carry out their work. The

² Verbatim quote: „...*Probleme und unerfüllte menschliche Bedürfnisse als Inspirationsquelle zu nutzen, um für die Zukunft bessere, weil nutzerzentrierte Lösungen zu suchen und zu finden.*“

team includes five women and five men, and the average age at the time the survey was conducted was 35,9 years. The SUR (see Appendix – Assessment of Needs “Relocation IFM”) included open and closed questions aiming to gain a deeper understanding of the flow of work ensuing:

- team organisation,
- communication among all employees,
- contact with external parties/students,
- requirements for technical equipment,
- data storage and archiving,
- mobility,
- general comments and wishes.

The qualitative responses from all concerned users revealed daily work processes among the team and helped derive requirements on the relocation.

3 Results:

3.1 Organisational and technological prerequisites:

The relocation faced three significant challenges. Employees had to face downsizing the office premises and reorganizing from private offices into an open-plan layout (see figure). In addition to the necessity to retrofit technological infrastructures within the more than 120-year-old building structure, the Covid-19 pandemic sharpened the need to integrate infrastructures to facilitate hybrid work.

Table 1: The location of work performance by employee (E1-10) before the Covid-19 pandemic.

	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
office	<i>on maternity leave</i>	100%	100%	90%	92%	95%	95%	90%	15%	50%
home office		0%	0%	0%	5%	5%	5%	10%	80%	50%
other environments		0%	0%	10%	3%	0%	0%	0%	5%	0%

By the time of the query (after the first lockdown in 2020), working from home was already practised within the team, but to a much smaller extent (see table 1). The desire to work from home or other premises, which was also asked about in the SUR,

was affirmed by most of the team (9 employees out of 10, one employee didn't practice WFH due to specific work activities that were not yet compatible with hybrid work).

The predominant focus of the case study is the involvement of employees in the transformation process – towards new ways of working. These comprised the following challenges:

- strengthened communication among all employees,
- an optimised infrastructure considering the needs of all employees, and
- implementing new working environments with optimal utilisation of the existing spatial conditions.

The teams' scope covers interdisciplinary research and hands-on projects in a university context. In addition to these projects, the research department is concerned with the editorial of a peer-reviewed journal, provides student mentoring, and organises an annual congress with more than 150 international participants on external premises.

3.2 The relocation process:

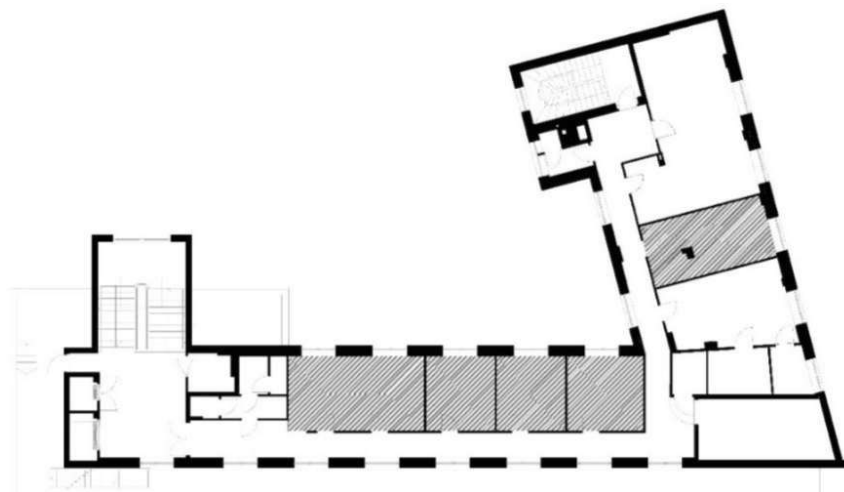


Figure 3: The greyed-out spaces show the single office structure of the original work environments (plan not to scale).

The original office premises comprised a private layout (see figure 3). One of the separate rooms included the library, and another the secretary's office hosted work stations for up to four people, which in reality was for individual use only. The use of individual rooms meant that colleagues only communicated with each other to a limited extent, even before the isolation enforced by the Covid-19 pandemic.

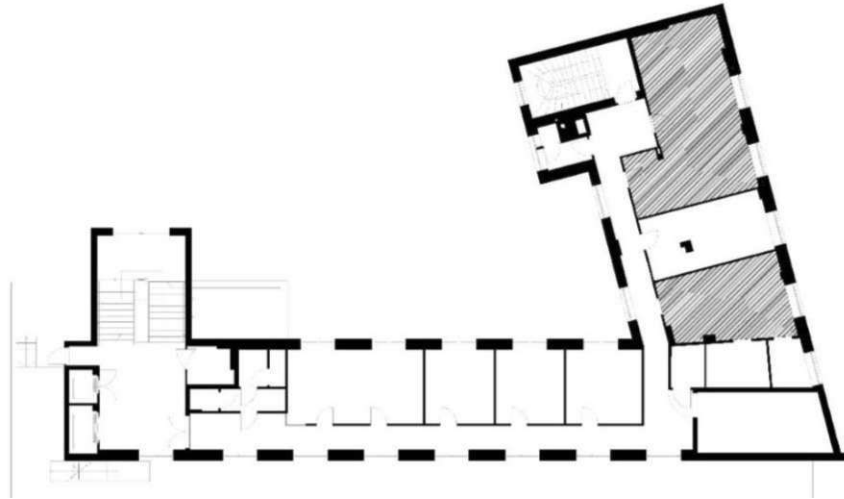


Figure 4: The greyed-out spaces show the meeting spaces of the original work environments (plan not to scale).

In addition to the private offices, two spatially separated meeting rooms complemented the office premises (see figure 4). The smaller meeting room offered a central meeting table, the bigger a theatre seating arrangement. Both spaces were frequently used for teaching purposes.

Following Kotter's 8-step method, the need to move to new office premises created a sense of urgency for change. As part of the first step of Change Management according to Kotter, the relocation process was communicated during an initial team meeting. The organisation offered two possible sites to move to. In order to involve the affected employees, they were included in the location decision, which was jointly discussed within the team (Step 2). The team could choose between a smaller premise near the original premises (offering excellent public transport connections via underground, buses and trams) and a much larger office behind the central train station (with few bus connections). After discussing the advantages of one or the other office space, a joint decision among the employees and the management was made to choose the smaller of the two options. The decision to move to the smaller office with excellent public transport links meant that the original idea of a single office was dropped due to the lack of available space. The decision to move to smaller premises also meant that the infrastructure had to be adapted in terms of technology. Nevertheless, the size and organisation of the other rooms made it possible to accommodate an additional person, and emerging technologies allow digital transformation.

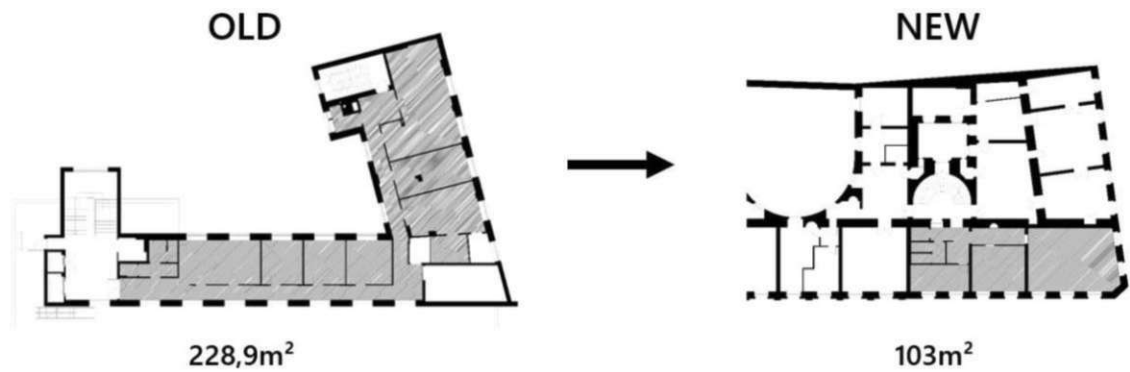


Figure 5: Floorplans of the old and new work environments (greyed-out spaces, plan not to scale but the same size relative to one another).

The above floorplans illustrate both office premises, the old one comprising 228,9m² and the new one 103m² (see figure 5). In contrast to the former office, the enclosed spatial structure had to be moved into an open space structure with shared workplaces.

Following the results of the assessment of needs and organisational prerequisites, the new office context had to establish new ways of working supported by appropriate technologies and combined with personal needs (Thrainer and Redlein 2024):

- ensuring virtual participation,
- a collaborative, concentrative and recreational workspaces,
- a hands-on laboratory and a collaboration room combined with a Design-Thinking room.



Figure 6: The new office premises under construction (Photo courtesy by L. Thrainer).

As part of all transformation steps, the SUR and constant individual and team feedback loops with all concerned further provided insight into the requirements of all employees (Step 3). Constant human-centred feedback in the sense of the Design-Thinking approach – aimed at transparent communication of the change – left enough space for the expression of individual wishes and responses to personal concerns. As the research department enforces research in workplace management and emerging technologies, some employees had a particular affinity with these topics. Other employees (mostly engaged with non-scientific content) expressed early doubts about moving from a traditional office layout into an activity-based one that supports hybrid work. These doubts were met by visiting different emerging work environments. With these visits, all employees concerned gained insight and were allowed to evaluate earlier opinions about their future work environment. During later feedback sessions, some participants expressed particular interest in trying out some innovative furniture.

Due to the need to downsize the research department when relocating and to incorporate new ways of working, the office structure and floorplan required a reorganisation. The researchers engaged with workplace management and emerging technologies were mainly included in the change process in the next step (Step 4). By involving these researchers, research-supporting measures should be taken, and researchers should be motivated to test research results thus enabling further research.

Compared to the former office layout, the prerequisite spatial configuration of the new office space required a division of the open space into zones and allocation of specific uses to the other rooms. While the open structure promotes the integration of employees, it also supports the simplified manageability of the whole organisational unit. The largest of the three available office rooms hosts the majority of six employees, while the smallest space remains a private office hosting two employees (see figure 7). Both of these rooms host all employees who are employed in this research department. As some of the employees work part-time, some jobs are double-occupied. Due to individual agreements, there are no overlaps. The third room received transformation, newly hosting a collaboration room combined with a Design-Thinking room. This setting should allow employees to host internal and external meetings but also seclude from the rest of their colleagues and take a break (see figure 7).

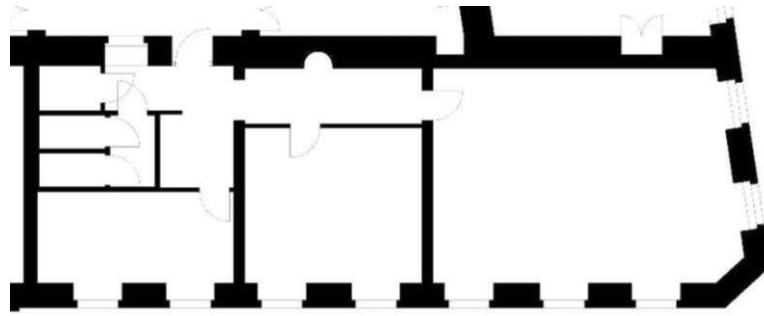


Figure 7: The spatial configuration of the new office premises (plan not to scale).

Concerning the meeting possibilities, the SUR showed two different meeting situations (see table 2). Either all ten employees would meet, which usually happens during the weekly jour fixes. The open room structure of the biggest of all office rooms allows one to participate in person or via conferencing tools. The other meeting scenario includes fewer participants (two to three team members). Depending on their research activities, this affects two or three team members. Table 2 reveals the problems of the timing of the query as a whole. Two employees responded that they would not participate in any meeting. This could be due to the fact that the interviewees assumed the time of the survey, when no meetings were taking place, and not the normal working day.

Table 2: Meeting scenarios to assess the need for meeting space.

	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
<i>meeting scenario 1</i>	2	2	0	2	2	3	3	0	3	1-3
<i>meeting scenario 2</i>	10	10	0	10	10	10	10	0	10	n.d.

Due to the rigidity of the old office layout and previously carried out visits to state-of-the-art office layouts, not only the employees conducting research around workplace management or emerging technologies were curious about adaptable furniture and implemented technical tools which aimed to support hybrid work (see figure 8). In the spirit of Kotter's "spread the message", the other employees were also included in the change process (Step 5). They could see how research topics were directly translated into reality (Step 6). The direct exchange with the contractors, with whom the feasibility of the proposals was constantly discussed, was constructive for this process (Step 7).

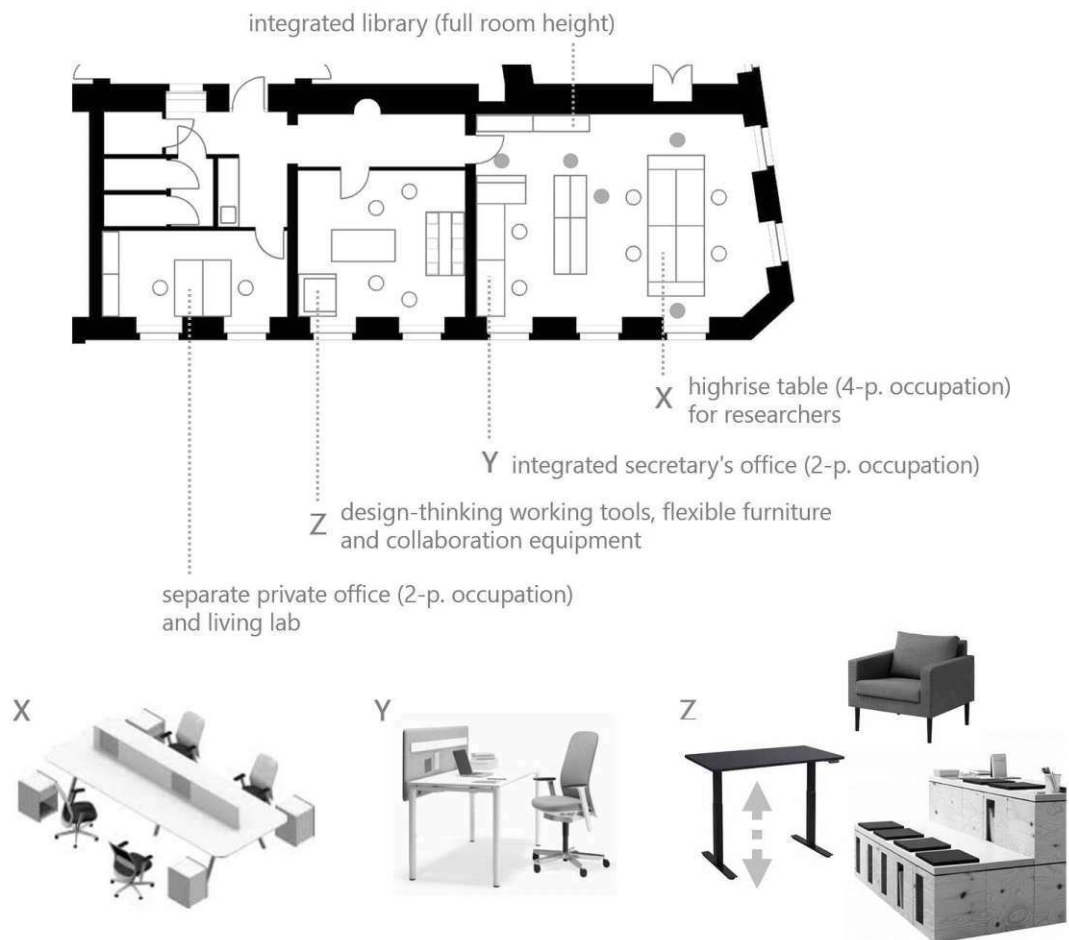


Figure 8: Final layout of the office premise and implemented furniture (plan not to scale).

Within the largest of all rooms (see figure 15), six employees find space for permanent work, allocated in different zones, and can work on their specific tasks accordingly. Two employees representing the secretary's office with assigned seats require optional external contact and administrative tasks. Following the wishes of both secretaries, non-adaptable tables were installed and close-by storing opportunities (see figure 16). The other four employees, researchers working free-address (based on the principle of first-come-first-serve basis and emphasises adaptability and spontaneity in the use of office-based workplaces (Knight and Haslam 2010)), can choose their seats on a highrise table according to availability to work on their research activities, which they described as mainly requiring focus and concentration. All four researchers articulated the need for a silent environment. One researcher described:

*“more communication, possibly through a shared office, nevertheless there should be the possibility for personal space for concentrated work”*³ [translation by the author].

The researchers expressed interest in the highrise table setting, as they wished to try working alternately seated and standing. Some other employees raised concerns about the highrise table setting or height-adaptable tables, which is why not adjustable work settings supplemented the four stand-up work desks. In addition to permanent workstations, the highrise table and neighbouring cupboards allow intermediate meetings among the majority of the research group, cupboards allow temporary meetings and hot-desking. Room-dividing furniture offers enough space for storage while supporting the appearance of making the large room smaller and with plants on top, further supporting the improvement of the air-quality and the well-being of all users (Shafaghat et al. 2015) (see figure 9).

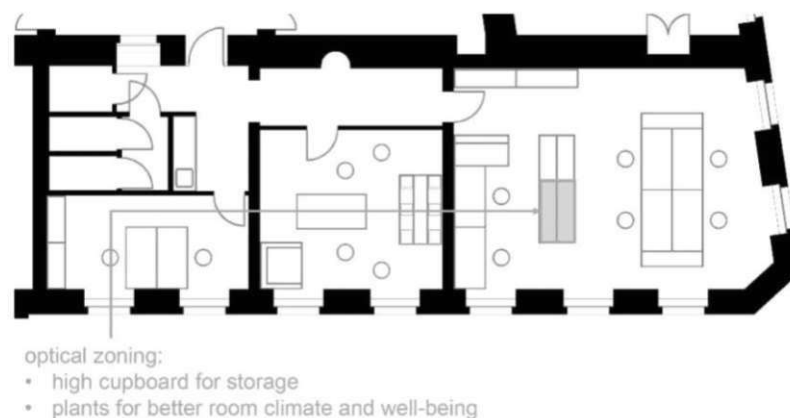


Figure 9: Optical zoning within the open-plan office space (plan not to scale).

Also, the library found space in the largest of all three premises, as both secretaries and researchers needed easy access to the books. One researcher expressed the wish of *“making the library easier accessible”*⁴ [translation by the author], and another researcher added *“easier access, should invite in using the library”*⁵ [translation by the author].

The mid-size room hosts all the tools necessary for a Design-Thinking process, including virtual participants. Offering toolboxes and boards for individual expression and adaptable furniture should support Design-Thinking processes and allow room

³ Verbatim quote: *„Mehr Kommunikation, eventuell durch gemeinsames Büro, trotzdem Möglichkeit für persönlichen Bereich für konzentriertes Arbeiten“*

⁴ Verbatim quote: *„Bibliothek leichter zugänglich machen“*

⁵ Verbatim quote: *„leichte Zugänglichkeit, sollte einladen dazu benützt zu werden“*

reconfiguration. Providing a web-conference screen and additional seating options allows simultaneous use of the room as a collaboration room (see figure 18 and figure 19).

Even though private offices were criticised in the previous layout, the assessment of needs revealed that two of the employees needed constant access to a variety of hardware devices and close-by storage of these tools (see figure 17):

“It must be possible to look at one screen with [name of a colleague]. I’ll need some space on the table for storing IoT devices and similar to test, wire up and put into operation. (...) Storage of unused electronic devices (e.g. screens, keyboards, server hardware) should be easily accessible”⁶ [translation by the author]

Also, another employee expressed concern about working in an open layout. This concern was discussed in team meetings and resulted in the offering of a second workstation within the private office. The employee agreed with this solution.

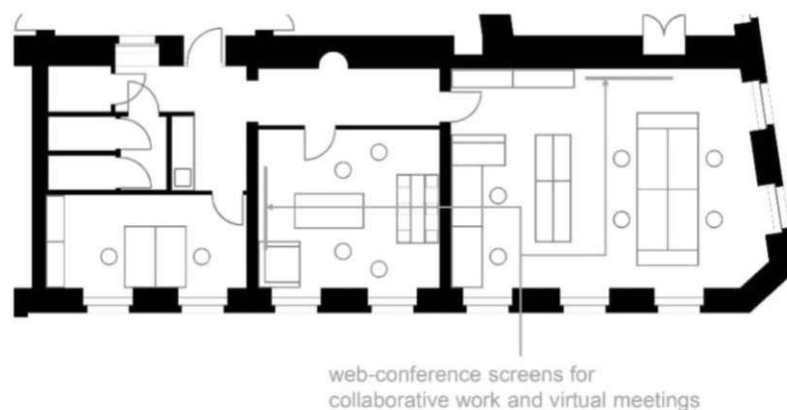


Figure 10: Position of web-conference screens allowing collaborative work and virtual meetings (plan not to scale).

In addition to furniture supporting the employees in carrying out their specific work tasks, several other infrastructural and technical facilities are installed within the new office premises. To ensure hybrid participation and collaboration, two web-conference screens connected to the local computer network enable virtual meetings (see figure 10).

⁶ Verbatim quote: *“Muss möglich sein zusammen mit [Name eines Kollegen] auf einen Bildschirm zu sehen und nebeneinander zu sitzen. Gewisse Fläche auf dem Schreibtisch um IoT Geräte und ähnliches zu Testen/Verkabeln/Betrieb nehmen. (...) Lagerung von nicht gebrauchten Elektronikgeräten (Bildschirme, Tastaturen, Serverhardware etc.) sollte gut erreichbar sein”*

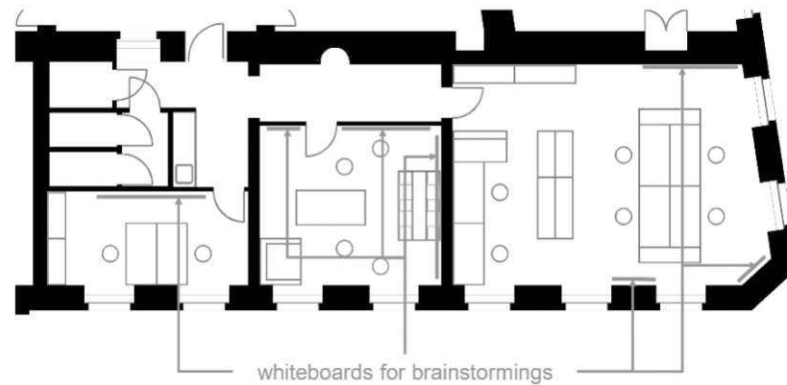


Figure 11: Position of whiteboards allowing brainstorming (plan not to scale).

The provision of whiteboards in all office rooms allows for personal expression, no matter in which room employees work. These spaces support on-site collaboration and personal expression in brainstorming sessions to further develop thoughts as a team (see figure 11).

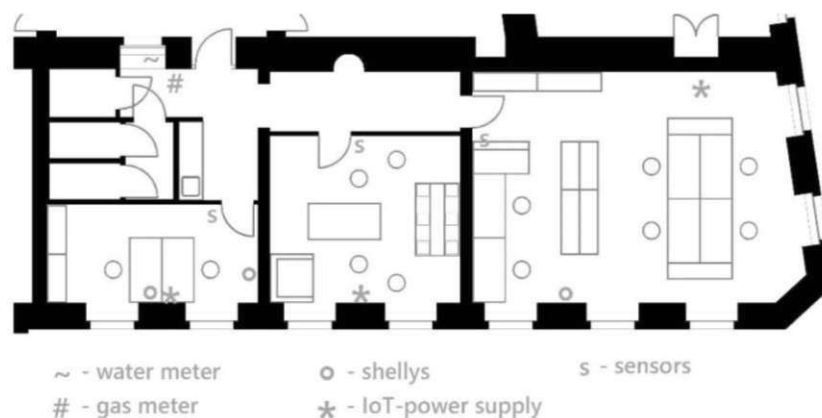


Figure 12: Position of all fixed installed technical devices (plan not to scale).

Given ideal working conditions, the spatial requirements of the new office premises set sustainable goals. All rooms become part of the living lab, enabling a better energy monitoring and optimisation overview. Modern electronic building automation is inexistent, as the premise dates back to around 1900. Therefore, installing sensors and observing meters should help gain further insight into high-energy consumers while safeguarding the well-being of the tenants. Along these lines, naturally available daylight should be preferred while supplemented by artificial light, and the implementation of emerging technologies should simplify the customisation of the work environment. The above plan reveals their positions within the lab (see figure 12), and the ensuing overview illustrates all tools implemented (see figure 13). These technical devices measure and transmit data (e.g., energy consumption, temperature, CO₂), which is then forwarded to servers and visualised, analysed and evaluated. This living-

lab configuration enables hands-on research, which led to further publications in other premises and case studies (Redlein and Thrainer 2022a, 2022b; Redlein et al. 2023).

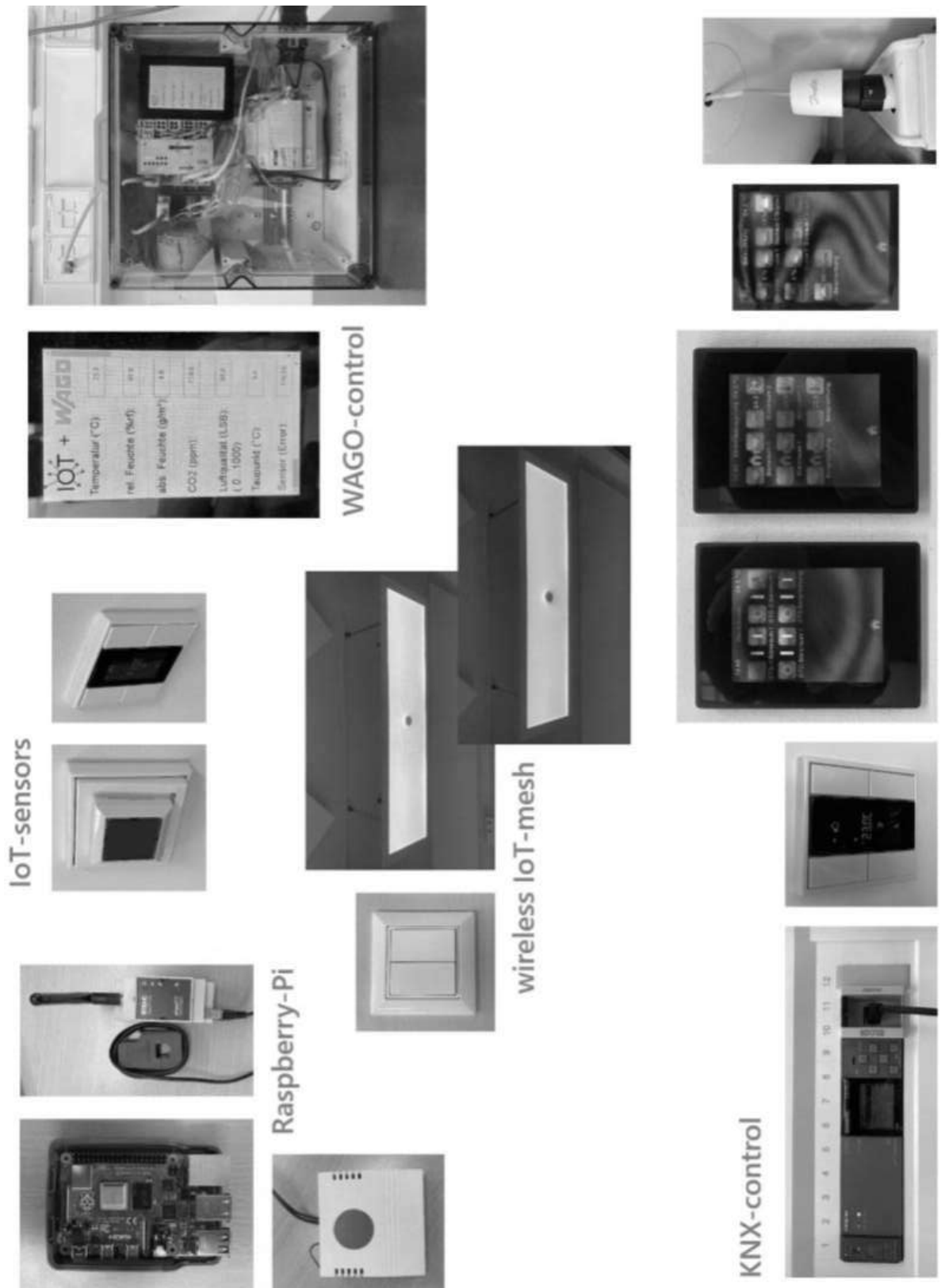


Figure 13: Installed hardware to monitor e.g. energy, temperature, humidity, CO2.

The following pages visualise the resulting transformation of the work environment from the construction phase to the finished layout. This includes organisational prerequisites and results from feedback rounds and the assessed SUR before and during the change process.



Figure 14: The open-space office under construction, before...
(Photo courtesy by L. Thrainer).



Figure 15: ...and after: the finalised open-space office showing the researchers' zone.
(Photo courtesy by L. Thrainer)

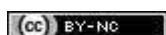




Figure 16: The finalised open-space office showing the secretary's office.
(Photo courtesy by L. Thrainer)



Figure 17: The private office hosting the hands-on laboratory.
(Photo courtesy by L. Thrainer)



Figure 18: The finalised Design-Thinking and... (Photo courtesy by L. Thrainer)



Figure 19: ...and collaboration room. (Photo courtesy by L. Thrainer)

4 Conclusion

The present paper introduced a CAS based on relocating a research department, which became necessary due to the reorganisation of the existing office premises. Starting with a SUR depicting an assessment of all users' needs, the CAS enabled insight into a transitioning process by applying Kotter's 8-step Change Management method and introducing Design-Thinking aspects to incorporate different employees' needs. Transparent communication of all necessary relocation steps and offering feedback sessions among all stakeholders were crucial to the case studies' success. Open communication and feedback loops allowed supervisors and teams to understand and react to the planned change. Incorporating employees' perceptions allowed the management to gain a deeper understanding of (team)work processes while enabling the employee to act themselves. Primarily through incorporating all present disciplines, communication was crucial to understand and relate to opponent sites. Implementing new technologies makes hybrid networking possible, as well as energy monitoring and optimisation.

The team's decision to move to a smaller office (even though there is no separate office for the team leader) is proving successful in practice, as employees repeatedly mention that they are happy to come to the office for on-site teamwork and a personal chat alongside their hybrid work. The possibility of hot-desking or using the adjacent meeting/Design-Thinking room provides all users with a fully-equipped workplace. Over time, it could be observed that individual free-address seats were used by the same users, mainly reasoned by the availability (first-come-first-serve) and due to the used equipment. Due to the high rate of remote workers, workstations were always available for everyone.

5 Discussion

Changes in the workplace can lead to extensive changes in the work processes of co-workers. Observing of an individual case and considering qualitative results allows one to gain a deeper understanding, especially when a small group is concerned. It will be worthwhile to continue monitoring the use case over the coming years. It could be of particular interest to e.g. interview incoming new employees who were not involved in the relocation process about their experiences with the hybrid workplace. In comparison, multiple and cross-cases enable the identification of errors or the detection of similar phenomena and generalisable conclusions throughout different

cases (Yin 2014: 242). A subject of further research could be to observe further comparable use cases to enrol on meta-analysis.

6 References

- Alas, R. (2007) The impact of employee participation on job satisfaction during change process. *Problems and Perspectives in Management* **5** (4).
- Aloisi, A. and Stefano, V. de (2022) Essential jobs, remote work and digital surveillance: Addressing the COVID-19 pandemic panopticon. *International Labour Review* **161** (2), 289–314.
- Chow, J., Palamidis, D., Marshall, S., Loomes, W., Snook, S. and Leon, R. (2022) Teleworking from home experiences during the COVID-19 pandemic among public health workers (TelEx COVID-19 study). *BMC Public Health* **22** (1).
- Farcane, N., Bunget, O. C. and Blidisel, R. et al. (2023) Auditors' perceptions on work adaptability in remote audit: a COVID-19 perspective. *Economic Research-Ekonomska Istraživanja* **36** (1), 422–459.
- Farre, T. (2021) The hybrid office, post COVID-19: making work safe for people and ideas. <https://www.ibm.com/blogs/industries/hybrid-office-work-from-home-post-covid-19/> - retrieved on Tuesday, September 21, 2021.
- Ganguly, A., Joseph, J. M., Dutta, S. and Dey, K. (2022) Exploring the Employer–Employee Relationship: A Management Versus Employee Perspective of the Vicissitudes in the Virtual Workplace. *Global Business Review*.
- Hamouche, S. and Parent-Lamarche, A. (2023) Teleworkers' job performance: a study examining the role of age as an important diversity component of companies' workforce. *Journal of Organizational Effectiveness* **10** (2), 293–311.
- Haynes, B., Suckley, L. and Nunnington, N. (2017) Workplace productivity and office type. *Journal of Corporate Real Estate* **19** (2), 111–138.
- Husak, C. (2023) *Dynamik entfesseln: Theorien, Instrumente und Rollen für effektive Führung und die Transformation starrer Organisationen*. Edition Summerhill, St. Margarethen.
- Jemine, G., Dubois, C. and Pichault, F. (2020) From a new workplace to a new way of working: Legitimizing organizational change. *Qualitative Research in Organizations and Management: An International Journal* **15** (3), 257–278.
- Kaufman, E., Lovich, D., Bailey, A., Messenböck, R., Schuler, F. & Shroff, A. (2020) *Remote Work Works: Where Do We Go from Here?*
- Kimbell, L. (2011) Rethinking Design Thinking: Part I. *Design and Culture* **3** (3), 285–306.
- Knight, C. and Haslam, S. A. (2010) The relative merits of lean, enriched, and empowered offices: an experimental examination of the impact of Workspace management strategies on well-being and productivity. *Journal of Experimental Psychology* **16** (2), 158–172.

- Kotter, J. P. (1996) *Leading change*, 1. print. Harvard Business School Press, Boston, Mass.
- Lines, R. (2004) Influence of participation in strategic change: resistance, organizational commitment and change goal achievement. *Journal of Change Management* **4** (3), 193–215.
- Management Study Guide (2024) Levels of Management: Top, Middle and Lower Management. https://www.managementstudyguide.com/management_levels.htm - retrieved on Monday, July 22, 2024.
- Meinel, C. and Thienen, J. von (2016) Design Thinking. *Informatik-Spektrum* **39** (4), 310–314.
- Nanayakkara, K. T., Wilkinson, S. J. and Ghosh, S. (2021) Future office layouts for large organisations: workplace specialist and design firms' perspective. *Journal of Corporate Real Estate* **23** (2), 69–86.
- Naor, M., Pinto, G. D., Hakakian, A. I. and Jacobs, A. (2022) The impact of COVID-19 on office space utilization and real-estate: a case study about teleworking in Israel as new normal. *Journal of Facilities Management* **20** (1), 32–58.
- Neves, P. and Caetano, A. (2009) Commitment to Change: Contributions to Trust in the Supervisor and Work Outcomes. *Group & Organization Management* **34** (6), 623–644.
- Priya, A. (2021) Case Study Methodology of Qualitative Research: Key Attributes and Navigating the Conundrums in Its Application. *Sociological Bulletin* **70** (1), 94–110.
- Redlein, A., Barettschneider, C. and Thrainer, L. (2023) ESG monitoring and optimisation solutions and their return on investment: Results of several case studies **1176** (1), 12029.
- Redlein, A. and Thrainer, L. (2022a) Environmental and social monitoring in existing building structures: Results of a case study within several historical buildings. In: 15th IEEE International Conference Human System Interaction: HSI 2022, Melbourne, Australia, 28-31 July 2022. IEEE, Piscataway, NJ, pp. 1–6.
- Redlein, A. and Thrainer, L. (2022b) IoT-based architecture for efficient energy monitoring in existing building structures. *IOP Conference Series: Earth and Environmental Science* **1122** (1), 12058.
- Robertson, M. M., Lin, J., Huang, E. and Schleifer, L. (2022) Virtual office intervention effectiveness: A systems approach. *Work* **71** (2), 451–464.
- Rodríguez-Modroño, P. and López-Igual, P. (2021) Job quality and work: Life balance of teleworkers. *International Journal of Environmental Research and Public Health* **18** (6), 1–13.
- Schreiber, C. (2024) Change Management Models: Lewin, Kotter, ADKAR Compared. <https://ideas.sideways6.com/article/change-management-models-compared-lewin-kotter-adkar> - retrieved on Wednesday, July 24, 2024.
- Shafaghat, A., Keyvanfar, A., Ferwati, M. S. and Alizadeh, T. (2015) Enhancing staff's satisfaction with comfort toward productivity by sustainable Open Plan Office Design. *Sustainable Cities and Society* **19**, 151–164.

- Skelsey, D. (2013) Why Do People In Business Resist Change?
https://web.archive.org/web/20150209084354/http://www.project-laneways.com.au/blog/articles/_thread_/why-do-people-in-business-resist-change - retrieved on Wednesday, July 24, 2024.
- Smollan, R. K. and Morrison, R. L. (2019) Office design and organizational change. *Journal of Organizational Change Management* **32** (4), 426–440.
- Thrainer, L. and Redlein, A. (2024) The infrastructure of hybrid work environments: A comparison of different spatial offers. In: *Proceedings of the 4th Transdisciplinary Workplace Research Conference*.
- van Koetsveld, R. and Kamperman, L. (2011) How flexible workplace strategies can be made successful at the operational level. *Corporate Real Estate Journal* **1** (4), 303–319.
- Yaakob, A. M., Nur Firzana, M. H., Kamarazaly, M. A., Hashim, N., King, L. S. and Ling, S. (2021) The concept of telecommuting lifestyle in the construction industry: Quantity surveyor' perspectives. *Malaysian Construction Research Journal Specialissue* **12** (1), 53–63.
- Yin, R. K. (2014) *Case Study Research and Applications: Design and Methods*.

Appendix - Assessment of Needs „Relocation IFM”

ASSESSMENT OF NEEDS

Supplier: IFM TU Wien
Project: "Relocation IFM"
Date : July, 3rd 2020
Location: Treitlstraße/Resselgasse, 1040 Vienna

Participants and Job Description:

Participant: _____
Job description: _____

1. General Description of Processes and Workflow:

Please check the list below and add supplemental processes if necessary.

Please assess to what extent the activities are routine activities or complex tasks that require particularly concentrated work:

1.1. Working Hours at the Office: (tick where applicable)

MON TUE WED THU FR
 weekly interval: _____

1.2. Work Start and End:

- appr. ____:____ o'clock
- duration: _____ h
- deviations (e.g. general working hours MON-WED, reduced working hours on THU): _____

1.3. Lunch Break (Inside and Outside the Office):

- appr. ____:____ o'clock
- duration: appr. _____ h

1.4. Key Processes/Activities:

- _____
- _____
- _____

1.5. Description of Daily Work Processes:

- work process: _____ duration: _____
- work process: _____ duration: _____
- work process: _____ duration: _____
- work process: _____ duration: _____
- work process: _____ duration: _____
- work process: _____ duration: _____

1.6. Estimated Distribution of Working Time: (please indicate in percent %)

- phone calls: ____ %
- emails: ____ %
- routine working: ____ %
- concentrated working: ____ %
- creative working: ____ %
- meetings: ____ %
- other _____: ____ %

Figure 4: Questionnaire on the assessment of needs, p 1.

1.7. Are there any special requirements for your work?

1.8. Are there any requests for improvement with regard to work processes? If yes, which ones?

2. Team Organisation: (to be worked out by the project manager)

If there is a hierarchical structure in your department (head of department - employees etc.), please provide a brief description of the number of teams including size, employees and their functions:

2.1. Number of Employees:

_____ employees

2.2. Scope of Employment:

_____ %

2.2. Core Working Hours of the Team:

____:____ - ____:____ o'clock

2.3. Occupancy:

- minimum: _____ people

- maximum: _____ people

2.4. Are there any requests regarding the occupancy of the department? If so, which ones?

3. Contact with Externals and Students

3a. Externals

3a.1. Amount of External Contacts (i.e. persons who are not directly affiliated or associated with the IFM):
number: _____

3a.2. Frequency of External Contacts: (tick where applicable)

per week, or

per month, or

per year

3a.3. Peaks/Usual Time of External Contact:

appr. _____ : _____ o'clock

3a.4. Time Required per Contact and Process:

appr. ____

3a.5. Kind of Contact: (tick where applicable)

- meeting: *yes / no*

- exam: *yes / no*

- lecture: *yes / no*

- other _____ (fill in): *yes / no*

- other _____ (fill in): *yes / no*

3a.6. Organisation of Contacts:

personally, unscheduled

personally, scheduled

Figure 5: Questionnaire on the assessment of needs, p 2.

- via phone
- via email
- via internet application
- other:

3a.7. Are there any special requirements / needs for the contacts?

3b. Students

3b.1. Amount of Contacts with Students (i.e. persons who are not directly affiliated or associated with the IFM):
(please fill in and mark with a cross)

number: _____

3b.2. Frequency of External Contacts: (tick where applicable)

- per week, or
- per month, or
- per year

3b.3. Peaks/Usual Time of Student Contact:

appr. _____ : _____ o'clock

3b.4. Time Required per Contact and Process:

appr. _____

3b.5. Kind of Contacts: (tick where applicable)

- meeting: *yes* / *no*
- exam: *yes* / *no*
- lecture: *yes* / *no*
- other _____ (fill in): *yes* / *no*
- other _____ (fill in): *yes* / *no*

3b.6. Organisation of Contacts:

- personally, unscheduled
- personally, scheduled
- via phone
- via email
- via internet application
- other:

3b.7. Are there any special requirements / needs for the contacts?

4. Communication among the Team

4.1. Which work processes (previously described in question 1.4.) **require intensive communication between employees and departments?**

4.2. Which employees do you have the most contact with? What kind of contact do you have?

- colleague: _____ kind of contact: _____
- colleague: _____ kind of contact: _____
- colleague: _____ kind of contact: _____

Figure 6: Questionnaire on the assessment of needs, p 3.

4.3. At what intervals are department meetings scheduled? (tick where applicable)

daily
 weekly
 monthly
 other interval: _____

4.4. Where do these meetings happen? (tick where applicable)

meeting rooms
 external premise
 at the work station
 other premise: (please fill in) _____

4.5. How many people participate in these meetings?
 ____ people

4.6. Are there any "Social Areas"? (tick where applicable)
yes / no
 → if *yes*, which one are these? _____

5. Description of ICT-tools

5.1. Soft- and Hardware:

- currently: _____
 - in the future: _____

5.2. ICT-Tools:

- privately owned: _____
 - company owned: _____

6. Mobility

6.1. Where do you work? (tick where applicable)

office: *yes/no*
 home office: *yes/no*
 at another premise: *yes/no*
 → if *yes*, at which other premis(es)? _____

6.2. If the location of work is more than one location, how is the distribution among these premises?
 (please indicate in percent %)

office: ____ %
 home office: ____ %
 at (an)other premis(es): ____ %

7. Data Storage and Archiving

7.1. How is data currently archived? (tick where applicable and fill in)

- mainly electronically on a central server: *yes / no*
 - mainly electronically on the companies' laptop: *yes / no*
 - print-out archive: *yes / no*
 - other: _____

7.2. If working archives are created, what kind of archives are they? (tick where applicable)

- temporary work archives: *yes / no*
 - personal work archives: *yes / no*
 - public work archives: *yes / no*

p 4

Figure 7: Questionnaire on the assessment of needs, p 4.

7.3. If yes, how long to you keep archived documents? (please fill in)

7.4. Is the library in use? (tick where applicable)

yes / no

→ if yes:

- when? _____

- by whom? _____

- at which purpose? _____

7.5. Are there any suggestions for improving data archiving or the use of the library? (please fill in)

8. General

8.1. Wishes and suggestions for the new office?

8.2. What is currently working well?

8.3. What is working less well at the moment?

8.4. What would you want to change?

8.5. What are you currently very happy with in the office? What do you think should move into the new office?

Figure 8: Questionnaire on the assessment of needs, p 5.