Facilitating Hotdesking in a Hybrid Office Environment: Lessons from the Hotdesking Experiences of Workers in a Malaysian GLC

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Abstract

In recent years, the dynamic evolution of work arrangements has prompted organisations to adopt hybrid office environments, where remote work and on-site presence harmonise. Within this context, hotdesking has emerged as a flexible solution for optimising workspace utilisation and fostering collaboration. This research explores the experiences of workers within a prominent Malaysian Government-Linked Company (GLC). The qualitative research presented herein aligns with three pivotal research objectives, collectively contributing to a comprehensive understanding of the hotdesking landscape within the Malaysian GLC context. This research captures the essence of how workers navigate different types of non-territorial activities that are associated with hotdesking. Through illuminating direct and participant observation as well as semi-structured walking interviews that were conducted between July and August of 2023, the study unveiled three types of work activities and six types of non-territorial work settings within the organisation. The aims revolves around an exploration of the underlying themes that define the hotdesking experiences of workers at the study site. This thematic analysis provides insides into how different underlying themes are shaping up based on the evolving spatial and social dynamics of the hybrid office. The findings demonstrate the crucial role of the physical workspace, the adaptive strategies employed by workers, and the multifarious factors contributing to their satisfaction levels. These insights provide valuable guidance to organisations seeking to cultivate effective and satisfying hybrid office environments. This research provides a holistic view of the intricate world of hotdesking, anchored in the experiences of workers within a Malaysian GLC. By addressing the research aims, it extends the understanding of hotdesking dynamics, contributing empirically derived insights that enrich the discourse on modern workspace strategies.

Keywords: Non-territorial workspace, hotdesking, hybrid office environment, Malaysian GLC, worker's experience

■1.0 INTRODUCTION

The evolution of work dynamics, driven by technological advancements, changing employee expectations, and the emergence of hybrid work models, has given rise to innovative approaches in workspace design and management (Kämpf-Dern and Konkol, 2017). Hybrid working entails a blend of traditional in-person work and remote work, seamlessly integrating physical presence at the business or organisation's premises with virtual work facilitated through the Internet (Iqbal et al., 2021). This approach extends to scenarios where individuals might participate in on-site work for a portion of their schedule, reserving the remaining days of the week for remote work. The hybrid working system offers organisations the distinct benefits associated with remote work. Some studies suggest that remote working is associated with higher job satisfaction, organisational commitment, and work-life balance, while other studies indicate that it can lead to work intensification, social isolation, and a negative impact on work-life balance (Bellmann and Hübler, 2020 Bulinska-Stangrecka and Bagienska, 2021; Felstead and Henseke, 2017; Kondratowicz et al., 2022; Toscano and Zappalà, 2020). Key advantages include higher employee satisfaction and improved environmental Considerations inherent to remote work. However, challenges arise, including maintaining productivity and employee well-being within this evolving work paradigm (Migliore et al., 2021).

The United Nations (UN) Sustainable Development Goals (SDGs) consist of 71 objectives, a crucial 'universal call to action to eradicate poverty, safeguard the environment, and ensure universal peace and prosperity by 2030' (UN DESA, 2022). Among these goals, commitments to decent work (SDG8), gender equality (SDGS), and well-being (SDG3) stand out, underscoring the importance of these issues in the context of flexible work arrangements, including telework and hybrid working, possess numerous advantages and possibilities for contributing the realisation of SDGs. This further allows us to dive deeper into the main components of hybrid working. One prominent paradigm shift within this context is the adoption of hotdesking, also known as agile working or flexible workspace arrangements, where employees do not have assigned desks but instead select their workstations based on their working needs (McDermott, 2016). This practice has gained attention due to its potential to optimise space utilisation, promote collaboration, and accommodate flexible work patterns, particularly in hybrid office environments (Zamani and Gum, 2019).

In a post-pandemic landscape, where most companies are embracing flexible working patterns, hot desking is a pivotal strategy to effectively reduce office space footprint while ensuring productive on-site collaboration (Tsea, 2021). However, this shift towards hotdesking is challenging. It raises questions about employee well-being and productivity (Frankó et al., 2022). The contemporary open office designs, often associated with hotdesking, have faced criticism for their potential to create distractions, emotional fatigue, and hinder

employee performance (Kim and de Dear, 2013). In combination with constant digital notifications and a lack of designated quiet spaces, this new working arrangement challenges employees' ability to concentrate and engage in focused tasks (Mantesi et al., 2022).

This research explores the intricate dynamics of hotdesking within the context of a Malaysian Government-Linked Company (GLC), specifically PETRONAS. It aims to uncover the challenges faced by employees in this non-territorial workspace setting, explore coping strategies, and provide insights to enhance the hotdesking experience in a hybrid office environment. Understanding these complexities allows organisations to develop flexible and supportive workspace environments that balance the advantages of hotdesking with the well-being and productivity of their employees.

■2.0 LITERATURE REVIEW

In today's rapidly evolving work landscape, organisations embrace hybrid office environments that blend remote work with in-person presence. This shift has brought various challenges and opportunities for organisations that impact workers' experiences, particularly in hotdesking (Gilson et al., 2022). They must find the delicate balance between minimising the substantial costs of under-utilised office spaces and providing employees with an ideal work environment that enhances job satisfaction, productivity, and overall well-being (Vivian, 2012). This challenge is crucial as organisations globally confront the intricate nuances of workspace arrangements in hybrid models. It is critical to understand how employees experience hotdesking within this framework and how these experiences influence their behaviours, collaboration, and the broader organisational culture (Bosua et al., 2017).

In recent times, the traditional 9-to-5 office style has undergone significant changes due to the pandemic, leading to the emergence of hybrid working models. This shift has necessitated the evolution of office design towards more flexible patterns. As a result, alternative options like co-working spaces with hot-desking systems and flexible working hours have gained popularity. Co-working space is described as an organisational approach to cultural and creative work that emphasises collaboration and community (Merkel, 2015), which can provide dynamic work environments at a reduced cost (Tan et al., 2021). Consequently, workers' preferences for office spaces have also changed, prompting a corresponding evolution in office design. It is hypothesised that, while occupants in office space are granted more power to choose which space they use and where they sit, they tend to gravitate towards the places with some preferred environmental features. While hybrid work arrangement blends traditional "in-office" work with "out-of-office" remote work (Cook et al. 2020) or telework. This blended strategy provides employees with the flexibility to work from an office or any other remote location (home, coffee shop, coworking place, etc.) outside their employers' premises with or without the use of ICTs. According to Halford (2005), hybrid work changes the nature of work, organisation, and management across domestic space, organisational space, and cyberspace.

This study aims to provide actionable insights for enhancing the hotdesking experience by exploring workers' unique challenges in such arrangements. Ultimately, this research extends beyond the organisational context, contributing to a deeper understanding of modern work environments and serves as a foundation for future research and practical applications in the continually evolving realm of contemporary workplaces. This study aims to bridge the gap by examining hotdesking experiences and their implications in a prominent corporate setting, ultimately facilitating the transition to effective hybrid office environments.

2.1 Evolution of Workplace Design

The concept of workplace design has undergone a significant evolution over time, reflecting changes driven by societal changes, technological advancements, and shifts in organisational culture (Antoine, 2021). In this context, workplace design can be defined as the shared nature of the workplace among individuals who work together (Karanika-Muray and Michaelides, 2015). Today's office has extended beyond traditional office space, encompassing homes, local cafes and various other "third places" brought together via virtual meeting platforms (Bataineh, 2019).

2.1.1 Industrial Revolution

Workspaces, where official tasks were conducted, have existed throughout various eras and civilisations. However, the first building dedicated to centralised office work was founded in 1726 in London, England, at the onset of the Industrial Revolution (Harris, 2021). Sir Charles Trevelyan, the permanent secretary of the Treasury from 1840 - 1859 of the UK government, first articulated in 1854 the importance of the physical workplace, where he wrote, "for the intellectual work, separate rooms are necessary so that a person who works with his head may not be interrupted; but for the more mechanical work, the working in a concert of several clerks in the same room under proper superintendence, is the proper mode of meeting it". (Marmot, 2015). This rigid sentiment is echoed in Scientific Management, a management theory that analyses and methodises workflow, commonly called Taylorism, named after its originator, Frederick Winslow Taylor (Spender and Kijne, 2012). Taylorism was a highly influential theory that shaped the design of workspaces during the early 20th" century.

2.1.2 Post World War II

Following World War I, a growing body of research (Cho and Pery, 2012; Elias et al., 2012; Shahzadi et al., 2014) began to delve into the dynamics of interpersonal relationships and employee motivation. This emerging field of study revealed a significant correlation where increased morale within the workforce directly translates to amplified levels of productivity and motivation (Chandrasekar, 2011; Shaban

et al., 2017). Working in unfavourable conditions can lead to reduced performance and increase the risk of occupational health issues, ultimately contributing to elevated rates of absenteeism and staff turnover (Leblebici, 2012).

2.1.3 Dotcom Era

During the early 1990s, the rapid development of connectivity technology brought about a notable rise in utilising the World Wide Web (Lederer et al., 2000). Additionally, computer ownership shifted from being considered a luxury to becoming a necessity (Hamil, 2000). The widespread availability of the Internet has paved the way for remote work as it offers individuals the chance to work from different locations beyond the traditional office environment as it has become more reliable (Denkenberger et al., 2015; Nash et al., 2018). This technological advancement enabled tasks to be performed remotely, breaking the geographical constraints once inherent to work arrangements. This shift has been particularly significant in a hybrid office environment, where individuals can seamlessly connect to their workplace systems, collaborate with colleagues, and access resources from diverse locations (Sokolic, 2022). The availability of the Internet has facilitated remote work and reshaped the way we conceptualise and execute work in the modern era (Kotey and Sharma, 2016).

2.2 Understanding the Hotdesking Concept

Due to the growing demand for hybrid work models, organisations are increasingly adopting hotdesking setups in their office environments. The history of office layout commences with a Taylorist view in the early 1900s and culminates with the casual office environments of the 2000s that include hotdesking (Morgan Lovell, 2017). Different variations of hotdesking exist, including free-seating hotdesking, hoteling hotdesking, departmental hotdesking, and zone-based hotdesking. In the context of free seating hotdesking, employees need to be assigned fixed desks or workstations (Kim et al., 2016). As time has gone on, corporations have embraced hot-desking as a cost-saving exercise and provided hot-desking neighbourhoods for large portions of commercial offices (Skogland, 2017). Furthermore, this approach actively fosters an environment of collaboration and cross-functional engagement, as employees are prompted to interact with different colleagues across the organisation (Guerin, 2021).

Hoteling hotdesking introduces a strategic approach to workspace utilisation by implementing a reservation-based system (Tagliaro and Ciaramela, 2016). This method encourages employees to plan their workdays and secure desks or thorough workstations to align with their availability and specific tasks. This system becomes particularly invaluable for organisations navigating complex interplay between in-office and remote work schedules (Souza, 2022). Pre-allocated workspace reservations of hoteling hotdesking ensure a seamless transition between various work modes, enhancing flexibility and optimising workspace resources (Adikesavan and Ramasubramanian, 2023). Departmental hotdesking, in contrast, fosters a collaborative environment among members of the same department or team (Greene and Myerson, 2011). This concept envisions a shared workspace that promotes dynamic exchanges of ideas, strengthens team cohesion, and nurtures a sense of unity. This arrangement allows employees to engage in spontaneous interactions, idea-sharing, and knowledge transfer, thereby strengthening the collaborative synergy within a specific workgroup (Cooper et al., 2017; Selwyn-Rowland, 2021).

In zone-based hotdesking, the office space is thoughtfully segregated into distinct zones, each designated for specific types of work activities (Pitt and Bennett, 2008). This zoning strategy acknowledges the diverse nature of tasks undertaken within the office and tailors the environment to accommodate them (Jeyasingham, 2016). For instance, quiet zones provide a serene atmosphere for focused work, while collaborative zones encourage team discussions and creative brainstorming. The incorporation of innovative furniture arrangements, such as café-style seating in collaborative areas, promotes a relaxed ambience that encourages spontaneous interactions, informal exchanges, and open communication, fostering a vibrant and dynamic work ecosystem (Morrison and Macky, 2017).

2.2.1 Advantages and Disadvantages of Hotdesking

Hotdesking arrangements offer a range of benefits that contribute to a more dynamic and flexible work environment for both employees and organisations (Oladinin et al. 2021). One of the primary advantages of hotdesking is the flexibility and mobility it provides to employees (Göçer et al.,.l 2018). This setup allows individuals to choose their workspace based on their specific tasks for the day, accommodating diverse work styles and preferences. Additionally, hotdesking promotes collaboration and networking by encouraging employees from different departments to work in proximity (Selwyn-Rowland, 2021). This proximity fosters idea sharing, cross-functional communication, and, ultimately, improved teamwork and innovation.

From an organisational perspective, hotdesking can lead to significant cost savings. Through the efficient utilisation of office space and the reduction of the necessity for individual workstations, organisations can achieve cost savings in real estate, maintenance, and utility expenditures (Kingma, 2019). Moreover, the shared nature of hotdesking workspaces promotes resource efficiency by maximising the use of desks, office equipment, and meeting rooms, minimising waste, and enhancing overall resource utilisation (Hirst, 2011). Hotdesking also aligns well with agile work methodologies, allowing employees to form teams easily and adapt their workspace to specific project requirements (Bozkurt, Zeynap, 2022). This agility extends to remote working as well, with hotdesking facilitating the option for employees to work remotely or from satellite offices (Chua et al., 2022). This capability has become especially relevant in recent times, as demonstrated by the flexibility required during the COVID-19 pandemic (Parker, 2020). Hotdesking, while offering various advantages, is not without its challenges. One of the key difficulties associated with hotdesking is the potential for decreased privacy in the workplace (Mohezar et al., 2021). In open and shared workspaces, conversations and interactions can become audible to others, compromising confidentiality and concentration (Anjum et al., 204; Cradduck, 2013). This lack of privacy can be particularly challenging when dealing with sensitive or confidential matters. The implementation of hotdesking also introduces challenges to team dynamics within the workplace. One significant disadvantage is the potential disruption of team cohesiveness and collaboration (Selwyn-Rowland, 2021). In

traditional office setup, teams often occupy dedicated spaces, fostering a sense of unity and camaraderie. However, in a hotdesking environment, team members may find themselves separated across different locations, making it challenging to establish a shared sense of belonging and mutual support (Chua et al., 2022). The lack of consistent seating arrangements can hinder the development of strong interpersonal relationships among team members (Morton et al., 2012). When employees are constantly changing their workspace, they might not have the opportunity to sit near their team members. This physical separation can result in reduced face-to-face interactions, hampering the exchange of ideas, knowledge sharing, and spontaneous conversations that contribute to effective teamwork (Nappi and Ribeiro, 2022).

There is also emerging research on the challenge involving employees' perception of hotdesking not as a form of appreciation from the organisation but instead as a cost-saving measure that potentially diminishes their sense of belonging in the workplace (Hackston and Way, 2015; Hirst, 2011). This perception can impact employee morale and engagement, highlighting the need for organisations to address this concern and foster an inclusive environment that encourages a sense of community and shared purpose among hotdesking employees (Adikesavan and Ramasubramanian, 2023; Lu, 2015). The element of uncertainty also introduces challenges to employees' work routines. The uncertainty arises from the lack of assigned workstations, causing employees to arrive at the office without a guaranteed space to work (Metyková and Waschková Cisarová, 2016). This unpredictability can lead to stress and frustration, as employees may need to spend time searching for available desks, disrupting their morning routine and potentially affecting their productivity (Bencivenga and Camocini, 202; Kohl, 2019). Moreover, this uncertainty can hinder employees' ability to plan and organise their work effectively, as they can't be sure of having a suitable workspace for their specific tasks (Kim et al., 2016).

Another key disadvantage of hotdesking is the reduced level of control employees have over their immediate workspace environment (Wels and Thelen, 2002). In a traditional office with assigned desks, employees often personalise their workstations to suit their preferences and needs. However, in a hotdesking setup, employees may find themselves in workspaces that are not ergonomically suited to their requirements (Mohezar et al., 2021). They might lack control over factors such as lighting, temperature, or noise levels, which can significantly impact their comfort and productivity (Soriano et al., 2021). Additionally, the open layout of hotdesking areas can lead to more distractions and less privacy, resulting in a decrease in the sense of reduced control over one's workspace (Samani et al., 2017). This lack of control can result in decreased job satisfaction and well-being among employees.

2.3 Factors Influencing User Satisfaction in Hotdesking Workspace

The satisfaction of users within hotdesking workspaces is influenced by a multitude of factors, each contributing to their overall experience and contentment. The design of such spaces plays a vital role in shaping user satisfaction. Factors like ergonomic furniture, well-designed workstations, and conveniently located amenities directly impact user comfort and well-being (Zamani and Gum, 2019). Furthermore, the spatial arrangement and proximity to essential resources, such as meeting rooms and communal areas, play a significant role in enhancing convenience and overall satisfaction (Kim et al., 2016).

Balancing open, collaborative spaces with private areas is essential in addressing potential challenges like noise and promoting privacy when needed (Mohezar et al., 2021). The presence of an effective technological infrastructure is vital for seamless access to tools and reliable connectivity, which directly affect task efficiency and communication (Chua et al., 2022). Moreover, design elements that encourage casual interactions and networking contribute to a sense of community and belonging, ultimately boosting job satisfaction (Hirst, 2011). Empowering users with the autonomy to select their workspace based on their tasks and preferences adds to their sense of control and satisfaction (Kim et al., 2016). This is further strengthened by organisational support and policies that endorse flexible work arrangements, fostering a positive work environment (Kim and Ed Dear, 2013). Adaptable spaces that cater to various work styles and allow for personalisation offer a tailored experience that can amplify user contentment (Zamani and Gum, 2019).

Aesthetic and atmospheric aspects also significantly influence user satisfaction. A visually pleasing environment with appropriate lighting and positive aesthetics positively impacts users' emotions and moods, thereby enhancing their overall satisfaction (Barton and Le, 2023). Furthermore, prioritising employees' health and well-being by encouraging physical activity, providing access to natural light, and offering spaces for relaxation contribute to an all-encompassing sense of satisfaction (Kohl, 2019).

2.4 Application of Hotdesking in Hybrid Work Arrangements

Within the evolving landscape of flexible working arrangements, hotdesking has emerged as a strategic solution for organisations aiming to effectively accommodate the hybrid work model (Bencivenga and Camocini, 2022). This approach, distinguished by its absence of dedicated workstations and the provision of shared, on-demand workspaces, addresses the intricate requirements of employees who split their time between the office and remote settings (Parker, 2020).

The integration of hotdesking in hybrid working arrangements is closely linked to the fundamental principles of adaptability and resource optimisation (Nordbäck and Nurmi, 2023). As organisations transition towards a hybrid work model, where employees alternate between working remotely and returning to the office, the traditional notion of assigned workstations becomes obsolete. Hotdesking aligns with this shift by offering a fluid, unassigned workspace environment that resonates with the dynamic nature of hybrid work (Migliore et al., 2021).

A central element in the application of hotdesking to hybrid work models is the role of technology. Advanced IT infrastructure and seamless connectivity are pivotal in ensuring that employees can smoothly access digital resources, collaborate with colleagues, and engage in virtual meetings regardless of their location (Davis et al., 2022). This technological foundation facilitates a cohesive work experience where remote and in-office workers can interact effortlessly, bridging geographical divides and enhancing teamwork (Souza, 2022).

The hybrid work arrangements demand a holistic approach to workspace utilisation. Hotdesking aligns with the concept of activity-based working, where employees choose their workstations based on the tasks at hand (Arz von Straussenburg et al., 2023). This practice promotes efficient resource usage, reduces underutilised desk space, and encourages a more dynamic workspace. However, alongside flexible seating arrangements, robust technology integration is paramount. The availability of cutting-edge tools enables seamless access to virtual meetings, digital collaboration platforms, and resources, ensuring that the remote experience mirrors the in-person work environment (Findeisen et al., 2021). In a hybrid office environment supported by hotdesking, organisations can implement more flexible budgeting strategies (Parker, 2020). Traditional office setups often require fixed expenditures for each employee's workstation, regardless of their actual presence. Hotdesking empowers organisations to allocate resources based on actual usage, enabling more precise budgeting and cost control (Aroles et al., 2019). This adaptable approach ensures that financial resources are allocated where they are needed most, supporting the dynamic nature of hybrid work arrangements.

Therefore, this study has provided a comprehensive overview of various aspects of modern workplace design, with a specific focus on hotdesking. The research traced the evolution of workplace design from its origins in the Industrial Revolution to the adaptation of hotdesking in today's hybrid work environments. Understanding hotdesking concepts revealed potential advantages such as flexibility and space optimisation, as well as challenges in fostering a sense of belonging. The examination of factors influencing user satisfaction demonstrated the significance of elements such as workspace availability, technology integration, and social interactions. Furthermore, the application of hotdesking in hybrid work arrangements emphasised its relevance in contemporary office settings. These insights collectively contribute to understanding modern workplace dynamics and the role of hotdesking in contemporary office environments, providing a foundation for the analysis of hotdesking experiences and behaviours within a specific organisation.

■3.0 METHODOLOGY

In the pursuit of comprehensively understanding the intricate dynamics of hotdesking within a hybrid office environment, a deliberate decision was made to adopt a qualitative approach. This approach was deemed most fitting due to its inherent capacity to delve into the intricate nuances and multifaceted dimensions that characterise the hotdesking experiences of workers within a hybrid office environment.

By opting for a qualitative approach, the study aims to uncover the underlying themes that shape workers' experiences with hotdesking. The choice of direct and participant observations, alongside semi-structured interviews, reflects the intention to capture a holistic range of perspectives and insights. These methods allow the researcher to immerse themselves in the participants' world, gaining access to their authentic experiences and sentiments as they navigate the hotdesking landscape. By examining the subjective narratives of workers, this research design enhances the study's findings. tI paints a comprehensive picture of the hotdesking phenomenon, incorporating aspects like workspace preferences, usage patterns, and coping mechanisms for the challenges. Furthermore, by focusing solely on qualitative methods, the research ensures that the authentic voices of participants are brought to the forefront, lending credibility and genuineness to the insights gathered.

In essence, the adoption of a qualitative research design is conscious, and decision-driven by the aspiration to unearth the rich layers of the hotdesking experiences. This approach holds the potential to bridge the gap between abstract theories and practical realities, enhancing the understanding of worker satisfaction, comfort, and productivity within a Malaysian GLCs' hybrid office context. Through this carefully chosen research design, the study aims to contribute meaningful insights that go beyond statistics and offer a comprehensive grasp of the implications of hotdesking in a dynamic and evolving work landscape.

3.1 Case Study

This study examines the hotdesking experience of workers in multiple office buildings located within the KLC Precinct, including prominent landmarks such as the PETRONAS Twin Towers, Menara 3 PETRONAS, and Menara ExxonMobil (hereafter referred as the study site). The study site serves as the primary office of the Malaysian GLC, PETRONAS. The research aims to examine workers' experience with the hotdesking facilitation in this prominent hub of corporate activity. The study site was strategically chosen as an ideal research site due to its central location and status as a super prime area with premium rental rates, indicating its significance in the corporate landscape. The selection of this study site is crucial due to its central location, premium real estate prices, and severe space constraints. This economic context necessitates the exploration of innovative workspace solutions, such as hotdesking, to optimise space utilisation and mitigate the challenges posed by the high operating expenses associated with such premium real estate.

Furthermore, the study site faces severe space constraints due to the highly developed nature of the area, characterised by numerous towering office buildings. As a result, the organisation needs to efficiently utilise the available workspace. The expansion of the organisation adds another layer of complexity, compelling the organisation to rethink conventional workspace practices and consider adaptable arrangements like hotdesking.

A distinctive feature of the study site is the consistent adoption of the Workplace for Tomorrow (WFT) office design theme across the organisation's offices. This design approach presents a unified atmosphere with shared attributes, such as workstation design, workspace layout, carpeting, and other interior architectural elements. The implementation of the WFT design creates a common thread of familiarity and standardisation across different office locations. This consistency establishes a foundational basis for comprehending the nuances of workers' hotdesking experiences, as participants engage with a similar physical setting regardless of their specific workspace.

A core aspect of the study site's layout is its prioritisation to provide flexibility within the workspace arrangement. Most of the floors in these buildings feature a designated zone exclusively dedicated to hotdesking setups. The prevalence of designated hotdesking zones across multiple floors underscores the conscious effort to provide employees with flexible choices in where and how they work.

3.2 Data Collection Methods

A blend of direct and participant observation, along with semi-structured walking interviews were conducted to examine the hotdesking experience of workers at the study site to obtain qualitative insights (shown in Table 1).

Table 1 Methods of data collection

Method	Time Frame	Data
Direct and participant observation	Jul 2023 to Aug 2023 Jul 2023 to Aug 2023	Field notes, behaviour maps, memos, photographs
Semi-structured walking interviews	Audio recordings, transcripts, memos	Audio recordings, transcripts, memos

Direct and participant observation were integral components of the data collection process as they were aimed to document the behaviours of users in non-territorial workspaces of the study site. The non-territorial workspaces were designed as behaviour settings described by attributes such as location, time, spatial layout furniture and activity type and orientation, all of which have structured meanings for users (Liu et al., 2016; Wicker, 1987). Daily, weekly, and seasonal behaviour mapping (Low et al., 2019; Seymour, 2007) of the non-territorial workspaces helped identify the recurring pattern of behaviours or "program" or overarching function associated with each set (Proshansky et al., 1976). The attributes and functions of all the observed non-territorial workspaces were aggregated into six types of work settings.

Six semi-structured walking interviews were conducted to explore the underlying themes of the participants' experience and behavioural responses to hotdesking in the study site. The participants were informed that the interviews would be audiotaped at the time of recruitment, and their signed and written consent, respectively, were acquired before audiotaping. The semi-structured interviews began by asking each participant to describe their role, department, or team within the organisation, along with when and where they worked at the study site. This was followed by an extended discussion about their usage patterns and the reasons for working at the locations noted by the participants. In the walking interviews, participants facilitated the researcher on a tour of locations they used for working on the study site. During the tour, participants answered questions about when and why they utilised specific locations by describing:
- the activities conducted in the location;
- the social and physical attributes of the work settings; and
- the spatiotemporal considerations determine the choice of location.

The participants were also encouraged to share insights into how they addressed or coped with the issues or challenges they encountered when explaining their choice of work settings in the study site. The data analysis methodology employed in this research adopts athematic analysis of the observation field notes and semi-structured interview transcripts to identify, analyse and report specific patterns or themes associated with the study of participants' experience of hotdesking at the study site. Semantic themes were extracted within the explicit or surface meanings of the data without seeking deeper interpretations beyond what the participants expressed in the interview or what the researcher observed in the field notes (Clarke et al., 2015). The process of thematic analysis encompassed the following phases shown in Figure 1:
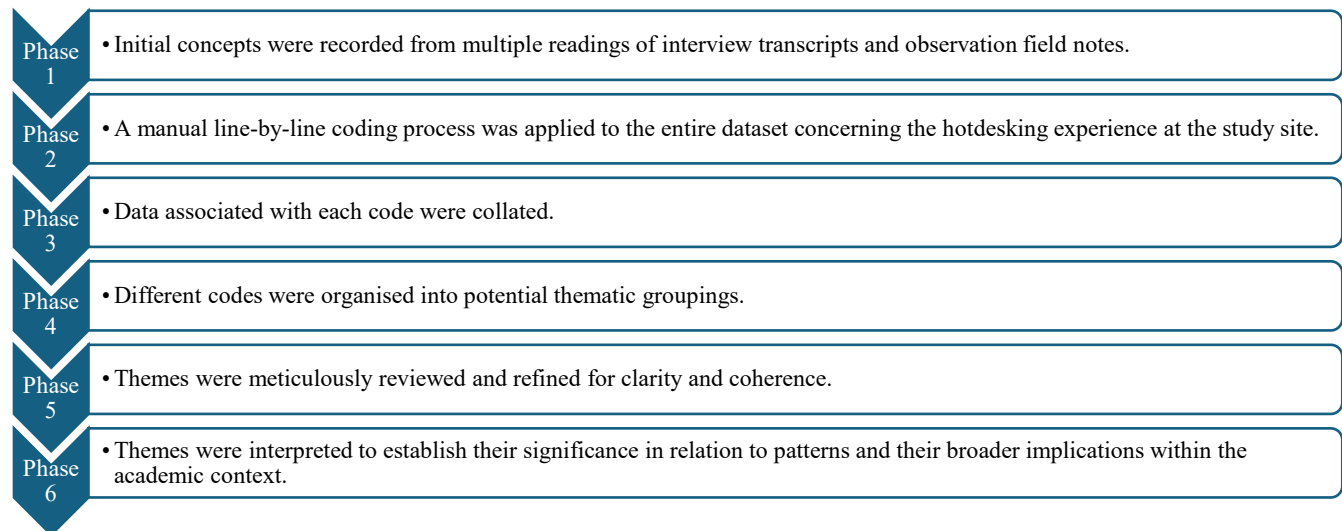

Phase 1 • Initial concepts were recorded from multiple readings of interview transcripts and observation field notes.

Phase 2 • A manual line-by-line coding process was applied to the entire dataset concerning the hotdesking experience at the study site.

Phase 3 • Data associated with each code were collated.

Phase 4 • Different codes were organised into potential thematic groupings.

Phase 5 • Themes were meticulously reviewed and refined for clarity and coherence.

Phase 6 • Themes were interpreted to establish their significance in relation to patterns and their broader implications within the academic context.

Figure 1 6 Phases Framework of Thematic Analysis
(Source: Braun and Clarke, 2006)

Steps 1 and 5 resulted in the identification of themes presented in the findings section, while the outcome of step 6 is expanded in the discussion section.

■4.0 FINDINGS AND ANALYSIS

The interviews were conducted from 42 July 2023 until 03 August 2023 in the study site. The study involved participants from various roles within the organisation, consisting of a purposively selected sample size of 6 individuals. Although conventional demographic data such as age, gender, and years of service were not available for analysis, the information presented in Table 2 captures crucial aspects of the participants' professional contexts.

Table 2 Summary of the participant's profile

Participant	Role	OPU/BU	Office Location
A	Analyst, Corporate Strategy	Upstream	Tower 1, Petronas Twin Tower
B	Software Engineer	Group Digital	Menara ExxonMobil
C	Stakeholder Management	Group Corporate Communication	Tower 2, Petronas Twin Tower
D	Project Management	Downstream	Menara 3, PETRONAS
E	Sustainability & Analytics	Upstream	Tower 1, Petronas Twin Tower
F	Business Strategy	Downstream	Menara 3, PETRONAS

All participants selected in the study are permanent, full-time employees of the organisation, ensuring a focused exploration of hotdesking from the standpoint of long-term organisational members, which is distinct from short-term contractors' or consultants' viewpoints. Notably, each participant has an assigned dedicated workstation. However, all participants have had the experience of using the hotdesking workspace more than five times.

Furthermore, the chosen participants exhibit varied tenures within the organisation. A significant portion of the participants possess a minimum of 3 years of experience, granting them a profound understanding of the pre-pandemic and post-pandemic working arrangement landscape. This perspective proves invaluable in gauging the evolution of work settings over time. However, Participant E has recently joined the organisation within the past year. This inclusion provides an alternative viewpoint, providing insights into the hotdesking experience from the lens of those who have encountered this working arrangement in a relatively short span of time. This participant composition provides a comprehensive examination of hotdesking experiences, utilising insights from both established long-term employees and new employees of the organisation.

4.1 Types of Activities in the Non-territorial Workspace

Three categories of activities were observed in the non-territorial workspaces at the study site: focused work, which requires distraction-free working, and collaborative work, which requires interaction with work colleagues, as well as recharge and recuperation. This is consistent with the findings of other studies on work activities in the workspace (Haynes, 2008; Heerwagen et al., 2004; Muhonen and Berthelsen, 2020) shown in Table 3.

Table 3 Work behaviour types and orientation

Observed Behaviours	Types of Activity	Orientation of Activity
Paper and computer-based reading and writing with or without headphones	Focused work (Internalising knowledge)	Solo
Conversing, presenting, etc. in-person, over the phone and in audio or video meetings	Collaborative work (Externalising knowledge)	Group
Gazing out the window, eating, chatting, napping, playing on the phone, stretching or short physical exercises and meditation or mindfulness	Recharge and recuperation	Solo and group

The observation also documented whether the activities were conducted solo or in groups to assess the compatibility of the various activities and their implications for working at the study site. For example, reading and writing are focused on internalising knowledge as they involve workers dedicating uninterrupted time and attention to tasks that require deep thinking, analysis, and problem-solving. In a workspace setting, conversations and presentations serve as critical channels for externalising knowledge by facilitating the exchange of ideas, insights and information among colleagues and teams. These three categories of activities served to identify the types of hotdesking workspace discussed in the following section.

4.2 Typology of Non-territorial Workspace Settings

The six types of non-territorial work settings are synthesised from the behaviour maps, pictures and participant and direct observations of the workspaces. Table 4 overleaf indicates that the office floors in the study site have been thoughtfully designated into specific zones where each type of work setting supports a specific set of tasks and activities. This strategic zoning ensures that employees have access to the most appropriate workspace based on the nature of their work, enhancing their overall efficiency and comfort within the office environment.

Table 4 Non-territorial workspace setting type and their attributes

| Setting Type	Key Furniture	Furniture Layout	Seating Capacity	Noise Level	Activity Type	Activity Orientation
Hotdesking	Linear workstation with desk, ergonomic chair, and storage cabinet.	Fixed and movable	5-50	Non-quiet	Concentration, interaction and collaboration	Solo and group
Chill out & collaboration area	Couches, stools, coffee tables, high bar chairs, long tables, whiteboard, television	Fixed	35	Non-quiet (Noisy during peak hours)	Concentration, interaction socialising, recharge	Solo and group
Pantry	Tables, chairs, cabinets, vending machine	Fixed and movable	16	Noisy	Interaction, socialising, recharge and recuperation	Solo and group
Phone room	Worktable and ergonomic chairs	Fixed and movable	1	Non-quiet	Interaction	Solo
Discussion room	Worktable and ergonomic chairs	Fixed and movable	24	Noisy	Collaboration and interaction	Group
Meeting room	Worktable and ergonomic chairs	Fixed and movable	22	Noisy	Collaboration and interaction	Group
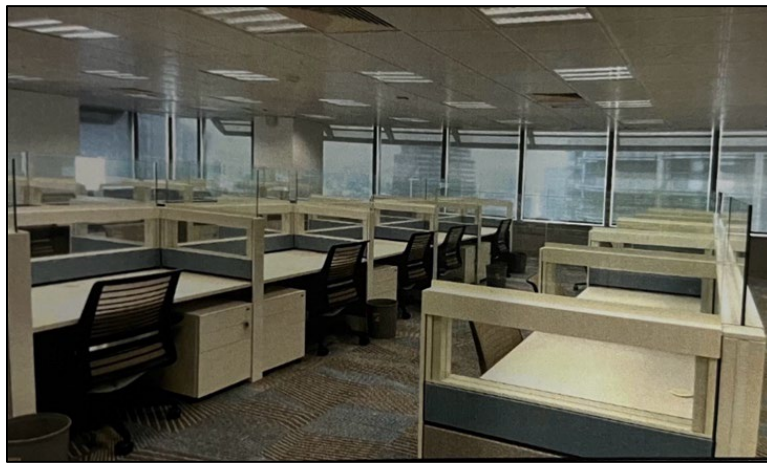
Figure 2 Hotdesking workspace in the study site

The hotdesking workspace, which consists of a desk, ergonomic chair, and storage cabinet, is arranged in an aligned workstation layout that is set side by side on the right line. From the observation, it is evident that the worktable of each hot desk was significantly smaller, occupying approximately half the space of the dedicated workstation furniture. Participants A, C, E and F found this setting positive as it encourages quick collaboration between users, such as spontaneous conversations. However, it is noteworthy that Participant D does not value this setting as they are concerned that other users might overhear any confidential conversations from their virtual meetings due to the proximity of the desks. Figure 3 on the following page is being created based on the field notes and photographs taken during the observation.
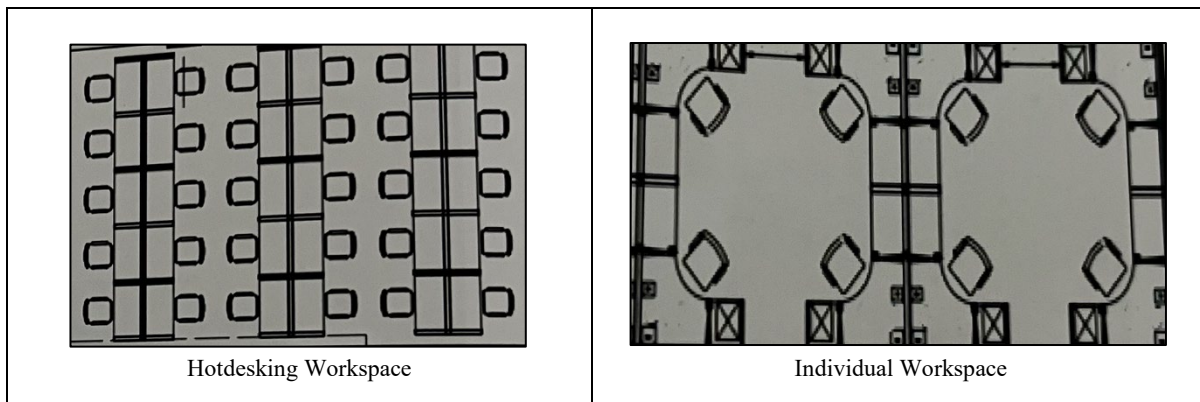

Hotdesking Workspace   Individual Workspace

Figure 3 Hotdesking vs individual workspace furniture layout

The dedicated workstation (Figure 4) in the office is distinctively designed, featuring a spacious L-shaped desk, ergonomic chair, and storage cabinet. These workspaces, in contrast to the compact hot desks, provide employees with more space to spread out their work materials and comfortably manoeuvre through their tasks. Notably, Participant D mentioned when the hot desks were unavailable due to peak hours or high demand, they would choose to share a workstation with a colleague stationed at their dedicated workstation.
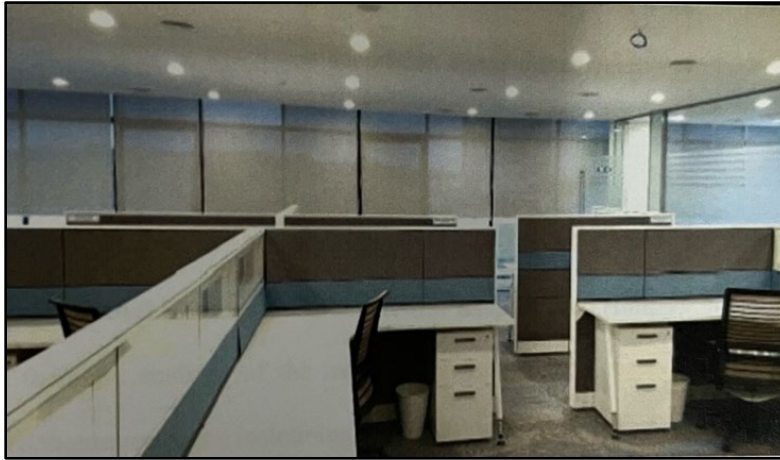
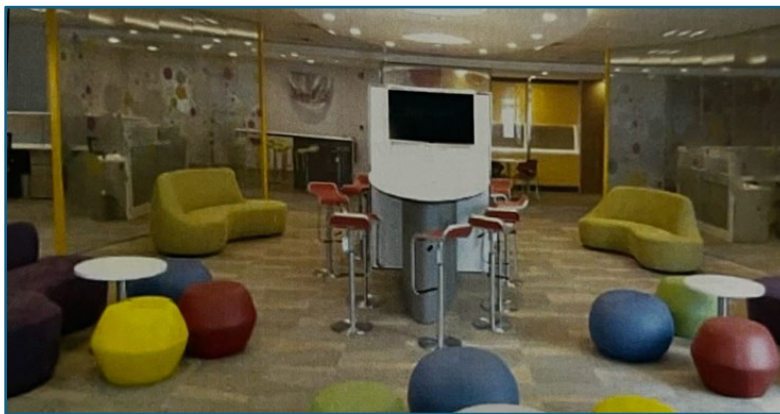**Figure 4** Dedicated workspace in the study site

Figure 5 Chill out and collaboration area

The chill-out and collaboration space (See Figure 5) serves multifunctional purposes, accommodating various group activities such as dining, discussions, collaboration, etc. Although the area can be very noisy around lunchtime (from 12 p.m. to 2 p.m.), these spaces are valued for the flexibility to conduct individual and group-oriented activities whereby it is often observed that individuals read and write or even eat alongside groups of people chatting, dining, and collaborating over a project. Participants D and E often opted to use the collaboration space for alternative workspace if the hotdesking area are fully occupied.

4.3 Experiential Themes and Behavioral Responses to Hotdesking

In the thematic analysis of the interview transcripts and observation notes, three interrelated themes emerged in defining the hotdesking experience: uncertainty, lack of control, and lack of workspace continuity. Table 5 displays examples of codes used to develop the themes. The themes and their respective behaviour responses or coping behaviours of the participants are discussed in the following section.

Table 5 Experiential themes and behavioural responses to hotdesking

Themes	Codes Corresponding with the Themes	Behavioral Responses to the Themes
Uncertainty	• Time wasted on searching and locating a task-appropriate workstation. • The desired workspace may not be available or already occupied • Concerns about workspace availability during peak hours.	• Planning alternative workspaces the preferred workspace is not available • Strategically planning the work schedule and coming in earlier to secure a suitable spot. • Requesting a team member to pre-book a spot by leaving their belonging at a hotdesk.
Lack of control	• Concerns with other users' potential overhearing of confidential conversations during an online meeting • Challenges in controlling noise levels from surroundings. • Workspaces are always occupied by the same group of people that does not have any dedicated workspace.	• Utilising the discussion room or phone room to attend the online meeting • Seeking quieter spots within the workspace or utilising noise-cancelling headphones to minimise disturbances. • Communicating with the person in charge of the workspace to address this issue and seek potential solutions.
Lack of workspace continuity	• Recurring setting up and clearing out of the hot desk. • Challenges in the absence of certain work equipment at the hotdesking area.	• Using version control systems and cloud-based tools to ensure work is easily accessible from any location. • Adapt to the available resources and suggest the respective parties add a monitor at hotdesking workspaces.

■5.0 DISCUSSION

This section focuses on the discussion of the key themes and insights derived from the study's findings regarding hotdesking experiences in the study site. The thematic analysis of both observations and semi-structured interviews revealed three interrelated themes uncertainty, lack of control, and lack of workspace continuity. These themes captured the intricate nature of hotdesking and its implications for employees within the study site.

5.1 Uncertainty

Study participants find hotdesking counterproductive due to the recurring uncertainty of quickly securing a task-appropriate workstation. This uncertainty, coupled with the inability to pre-book a hotdesk using an easy digital-based system, added to the challenges of hotdesking at the study site. Participant D addressed workspace uncertainty by having contingency plans, such as using collaboration rooms or sharing a workstation with a colleague. They mentioned, "My first few experiences of using hotdesking, I wasted a lot of time to find a suitable spot to do my work, so nowadays, if I can't find any empty workspace, I'll resort to my backup plan of using the collaboration area or share a workstation with a colleague."

Participant B shared that the desired workspace may not be available, so he adjusted his work routine to come early to place his belongings on the hotdesk before temporarily leaving the workspace. They mentioned, "I've adjusted my work routine by coming in early to set up my laptop and materials at the designated spot before I go somewhere else for a while. This is to ensure that I secure a spot at the workspace that I want."

Participant F approached the concerns of the unavailability of vacant hotdesking spots during peak hours by requesting a colleague to pre-book a seat for them by leaving a belonging at the hotdesk to indicate that someone was already seated there. They shared, "I'm always worried that the hotdesk will be fully occupied during peak hours. Therefore, I usually ask a friend to place their belonging at a hotdesk as a marking as if someone is already seated there."

The study participants relied on alternative locations, such as the collaboration area, discussion room, and sharing a desk with a colleague when they encountered challenges or unavailability of their preferred hotdesking spots. These alternative spaces provided them with flexibility and allowed them to continue their work effectively, even in a dynamic hotdesking environment. The findings show that the 'silo of one' has become an issue. Hybrid work can fragment team dynamics, making real-time collaboration more challenging. Disparate location can also hinder the spontaneous exchange that drives innovation (Barrero et al., 2021).

5.2 Lack of Control

This theme within the context of hotdesking refers to the challenges participants faced in managing their immediate workspace environment. Several participants expressed discomfort about the lack of control over privacy over the conversations held in the open workspace.

For instance, Participant D approached the lack of control on the concern of potential other users overhearing a confidential conversation in an online meeting by utilising the phone room or discussion room to attend a call. They noted, "In the hotdesking area, interactions are often brief, and I will be extra careful with my work materials or any online meetings that I attended at the workspace. Since people from different team are seated at the area, I don't want to unintentionally disclose any confidential information. I usually attend my online meeting in the phone room, or I'll use the discussion room." This concern highlights the challenge hotdesking can pose when it comes to maintaining a secure and private workspace for sensitive discussions. According to the research by Bolino et al. (2020),

the expanded digital footprint of hybrid work introduces complex security challenges, with increased risks of data breaches and cyberattacks. And IT support is more complicated to manage from a distance, leading people to seek workarounds for problems.

Furthermore, the lack of control extended to the consistent occupancy of hotdesking workspaces by the same group of people who do not have dedicated workstations. This situation further worsened the challenge of finding available and suitable spots for work in the hotdesking area. The participant had to navigate this limitation by utilising discussion rooms or phone rooms for specific tasks. Participant F explained, "To handle this, I've learned to reserve the discussion room or use the collaboration area. I also communicated with the person in charge of the workspace at my floor to address this issue, like maybe add more desks or implement booking system". This highlights how participants effectively addressed the lack of control by identifying alternative spaces in the office to maintain their productivity and providing suggestions to the respective parties to increase the number of workstations or implement a booking system for the hotdesking area.

5.3 Lack of Workspace Continuity

The lack of workspace continuity refers to the challenge or discomfort that workers face when they are unable to maintain a consistent and uninterrupted workspace over time. This theme resonates strongly with participants' responses, as it has significant implications for their work efficiency.

One noteworthy aspect of this theme is the discomfort expressed by participants on the recurring need to set up and clear out of a well-set-up workspace daily, even though they are there for an extended duration due to project requirements. As pointed out by Participant B, "Hotdesking can disrupt the continuity of my work. I need to clear up the space daily even though I'm using the space for 1 month due to a project's completion". This sentiment resonates with many participants, expressing the negative impact of being compelled to vacate their belongings from the hotdesking workspace daily.

Participant B also noted that they have turned to digital solutions to adapt to this disruption. They noted, "To mitigate this, I use version control systems and cloud-based tools to ensure that my work is easily accessible from any location I am in". These technological adaptations enable participants to transition between workstations while maintaining access to their work materials and project progress, thus promoting continuity in their tasks.

Participant A has highlighted a common concern regarding the lack of continuity in their workspace, particularly concerning the absence of specific equipment, such as a monitor in each hotdesk, to enhance their work efficiency. They mentioned, "I struggle compounded by the fact that various users from different departments share the hotdesking area, and the acquisition of additional equipment often depends on departmental funding. Participant A has made practical adjustments to using the existing resources available to them at the hotdesking workspace. They have also reached out to the respective parties responsible for addressing this issue, providing feedback on the necessity of including a monitor at each hotdesk.

■6.0 CONCLUSION

This research concludes the exploration by analysing the key insights and themes that emerged from the research on hotdesking experiences in the study site. Through the detailed data analysis, these insights have shown to have a substantial impact on the overall work dynamics. The findings revealed that non-territorial workspaces revolve around three types of key activities, which are focused work, collaborative work, and recharge and recuperation. These activities occur both individually and in groups, requiring specific workspace designs to provide them with effective support. Additionally, the study site has six distinct types of non-territorial workspaces on each floor, each catering to different activity types.

Based on the research findings, several recommendations can be made to enhance the hotdesking experience in the workplace. Firstly, implementing a reservation system for hotdesks can address the uncertainty issue, allowing employees to book their workspace in advance, thereby ensuring availability upon arrival. Additionally, integrating a digital booking system can enhance the efficiency of this process, enabling it to be user-friendly and accessible. Secondly, providing diverse hotdesking workspace options, including quiet zones for focused work and collaborative areas for team discussions, to cater to different work needs. This variety empowers employees to select the most suitable environment for their work. Furthermore, to manage the lack of control over noise levels in a hotdesking workspace, organisations should consider investing in noise-cancelling technologies and soundproofing measures. A clear guideline on noise etiquette should also be established and communicated across the organisation.

Organisations should also ensure that the hotdesking workspace is equipped with necessary tools and equipment such as monitors, ergonomic chairs and height-adjustable desks. Additionally, organisations should offer flexibility by providing tools that allow users to easily connect their devices and create a seamless transition between workstations. Moreover, a guideline on how to effectively use the hotdesking workspace should be established which includes the best practices for hotdesk booking, workspace etiquette, and how to make the most of the available resources. A well-informed workforce can contribute to a smoother hotdesking experience. In addition, organisations should establish feedback channels in the workspace, enabling employees to voice concerns or offer suggestions promptly. These recommendations aim to create a more supportive and adaptable hotdesking environment, tailored to the organisation's specific needs and constraints while enhancing employee satisfaction, productivity and overall well-being.

In summary, future research directions in the field of hotdesking experiences within the workplace should encompass industry-specific studies, the formulation of effective strategies, the integration of technology, and an unwavering focus on employee well-being. These research endeavours have the potential to shape the future of workspace design and contribute to the improvement of employees' work experience.

Acknowledgement

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