WHERE WE WORK

Physical workplaces in a digital world

Julia Schlegelmilch

Where we work: Physical workplaces in a digital world

Julia Schlegelmilch

Reading committee
Prof. dr. Bart van den Hooff
Prof. dr. Tanya Bondarouk
Dr. Jos Akkermans
Dr. João Baptista
Dr. Kristine Dery

Where we work:
Physical workplaces in a digital world
Julia Schlegelmilch

Ph.D. Thesis, School of Business and Economics, Vrije Universiteit Amsterdam, The Netherlands

This book is number 58 in the ABRI dissertation series.

Cover by Isaac Esteban
Layout by Julia Schlegelmilch
Printed by GVO drukkers & vormgevers
ISBN: 978-94-6332-710-7

VRIJE UNIVERSITEIT

WHERE WE WORK: PHYSICAL WORKPLACES IN A DIGITAL WORLD

ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad Doctor of Philosophy aan
de Vrije Universiteit Amsterdam,
op gezag van de rector magnificus
prof.dr. V. Subramaniam,
in het openbaar te verdedigen
ten overstaan van de promotiecommissie
van de School of Business and Economics
op dinsdag 9 februari 2021 om 9.45 uur
in de aula van de universiteit,
De Boelelaan 1105

door

Julia Schlegelmilch

geboren te Stuttgart, Duitsland

promotoren:	prof.dr. M.H. Huysman prof.dr. S.N. Khapova
copromotor:	dr. E.I. Lysova

Table of contents

List of figures

List of tables

1 INTRODUCTION

PUTTING PLACE FIRST

"The office is dead! Long live the office!"

- Maitland (2016)

Where work can be conducted has changed considerably over the years. Freelancers and employees alike have left the Taylorist cubicle farms (Saval, 2016) to work 'anywhere, anytime' (Chayka, 2018). Anywhere can refer to a variety of locations beyond the office, such as cafés, at the airport, or at home (Boell et al., 2016; Gandini, 2015). At the same time, workers have also become more mobile between locations (e.g., Aguinis & Lawal, 2013; Ashford et al., 2007; Colbert et al., 2016) as digital technology enables them to work irrespective of a specific geographic location (Barley et al., 2017; Kiesler & Cummings, 2002; Porter & van den Hooff, 2020). Yet, each of the locations is different and workers need to adjust how they work, adapt their environment and develop new skills to ensure their productivity and continuity of work.

Despite great strides in studying digital work (e.g., Hinds & Kiesler, 2002; MacDuffie, 2007; Raghuram et al., 2019; Rockmann & Pratt, 2015; Wilson et al., 2008), it is still unclear what role the physical environment plays for digital work when workers are connected virtually all the time; whether all physical environments support digital work; and what the benefits of sharing a physical place are for innovative behaviors. Understanding the role of the physical place for digital knowledge work is essential for determining how we can setup contemporary work and workplaces to best facilitate digital knowledge workers. This is why we need to explore the physical settings of digitally enabled work, thereby contributing to the broader conversation of understanding work in the

digital age (Barley & Kunda, 2001; Colbert et al., 2016; Orlikowski, 2016).

Digital work – broadly defined as knowledge work enabled by digital technologies, such as remote work or distributed work (Colbert et al., 2016; Hinds & Kiesler, 2002; MacDuffie, 2007) – has become ubiquitous and imperative for most knowledge workers (Orlikowski, 2016). The dominant perspectives in practitioner and scholarly literature on digital work tends to focus on topics such as trust and control (Bailey & Kurland, 2002; Sewell & Taskin, 2015), technology use (Ciolfi & de Carvalho, 2014; Leonardi et al., 2010; Mazmanian et al., 2013), or conflict across distance (Hinds & Bailey, 2003). What receives less attention is the fact that all digital work is still conducted by workers *within a physical environment*, which can hinder or support the workers' efforts (Brown & O'Hara, 2003; Irving et al., 2019). Thus, the underlying spatial configurations of digital work are being left in the background and workers' experiences of them overlooked. I do not mean to say that the implications of the physical environment on work more broadly have gone unnoticed (Davis, 1984; Elsbach & Pratt, 2007; Weinfurtner & Seidl, 2019). Rather, I argue that studying the physical environment needs to be brought to how workers conduct work in the digital age and how the physical environment is consequential for individual and organizational outcomes (de Vaujany & Mitev, 2013), such as interaction, collaboration or innovative work behaviors (e.g., Bernstein & Turban, 2018; Kristensen, 2004; Moll & de Leede, 2016; Moultrie et al., 2007; Scott & Bruce, 1994).

It is also crucial for practitioners to better understand how workplaces are changing because workplaces have implications for how work is being conducted and "companies will […] invest in improving them [workplaces] so employees can be more productive and happier at work" (Schawbel, 2015, p. 5). Less work is being conducted within the office as "the office is becoming more decentralized, and space [place] is shrinking. By 2020, the average amount of space [place] per employee will drop to 150 square feet, down from 400 in 1985" (Schawbel, 2015, p. 4). While this suggests that this may decrease "the second largest financial overhead" (Davis et al., 2011, p. 192), it also raises the question in what types of places

workers conduct work if not at home or at the office. More recently, many workers can experience the implications of the physical setting on work in the sudden remote work situation during the COVID-19 crisis. There is vast difference between physical environments that workers find themselves in during this time and how these environments afford or hinder people's work efforts. Furthermore, the COVID-19 crisis has shown many companies what is (not) possible when it comes to remote work and what employees need to make remote work 'work'. Also, the enduring protective measures by governments against COVID-19 force companies to rethink their physical work arrangements in fast forward (Boland et al., 2020; Yoon, 2020). Another aspect is the pace with which the crisis has forced workers and organizations to adapt the new situation (Neeley, 2020; Streitfeld, 2020). While this is just one example, it makes very clear that the physical workplaces in digitally enabled work matter to how we work. I want to explore in more depth the role of the physical workplace for digital workers and offer key learnings for how managers and employees can deal with it.

In this dissertation, I draw attention away from the digital environment as an object of study towards the physical work environment where digitally enabled work takes place. To understand how the physical workplace matters in digital work, I ask:

What are the theoretical and practical implications of the physical workplace for digital workers?

This question prompts both inductive explorations of contemporary workplaces as well as deductive tests of the relationship between workplaces and worker behavior. By focusing on the role of the physical workplace, my dissertation emphasizes the way current knowledge workers interact with their physical environment within and across different workplaces to stay connected to colleagues, conduct focused work and innovate. Utilizing both inductive and deductive research approaches, I demonstrate that the physical work environment plays an important part in digitally enabled work. Thereby, I bring physical setting into our discussion

of digitally enabled work, which contributes to the broader call of bringing work back into studying organizations (Barley & Kunda, 2001). In this call, Barley and Kunda (2001) argue that in order to adequately understand how work is changing and how to conceptualize it, we need to return to embrace studying the "mundane activities that constitute work" (Barley & Kunda, 2001, p. 86). My conclusion is that the physical environment indeed has implications for how digital work is conducted. Specifically, I conclude that we need to move from the concept of workplace as a single, predetermined location towards a concept of a workplace consisting of multiple digital and physical locations as well as being defined by actions occurring in the location.

In each chapter of this dissertation, I zoom in on a specific research question that addresses a different aspect of contemporary workplaces. When the findings of these chapters are combined, they contribute to an advanced theoretical and practical understanding of contemporary workplaces. In the upcoming sections, I elaborate on our current understanding of the spatial character of digital work, discuss my research approach and briefly outline each chapter in this dissertation.

1.1 Digital workers

Remote work, virtual work, mobile knowledge work and distributed work (Colbert et al., 2016; Hinds & Kiesler, 2002; MacDuffie, 2007) describe digital ways of working. They are both prevalent and wide-ranging. And although there are differences between these ways of working, they share that they are all enabled by digital technologies and concern knowledge work. Thus, for this dissertation, I define *digital work* as knowledge work that is characterized by being conducted using digital technologies in order to remain connected to people and digital objects while often being mobile and remote. *Mobility* occurs within one place and between places while *remoteness* is the distance to other people or places.

Many scholars are interested in studying digital work, for example

researchers in Management and Organization, Computer-Supported Cooperative Work (CSCW), Psychology or Human Resources (HR). Together, they address the role and consequences of digital technology for work and workers at different levels of analysis. As I draw on these different literature streams throughout the dissertation, I sometimes use the terms of remote work, virtual work, distributed work and mobile knowledge work interchangeably. While mobile knowledge work is specific in its concern with mobility between places (Bosch-Sijtsema et al., 2010; Brown & O'Hara, 2003; Moores & Metykova, 2009), remote work, virtual work and distributed work are more focused on the distance to people and, or, places (O'Leary & Cummings, 2007; Raghuram et al., 2019). They are all captured under the umbrella term digital work.

So far, studies in Psychology and HR focus on the individual-level consequences of increasing mobility and remoteness of work, such as stress or job satisfaction, and their moderating and mediating roles for job performance (Anderson et al., 2015; Gajendran & Harrison, 2007; Hertel et al., 2005). CSCW scholars are more concerned with the meso-level changes, such as work practices (Büscher, 2013; Ciolfi & de Carvalho, 2014; Czarniawska, 2013; Erickson & Jarrahi, 2016) and Management and Organization scholars focus on topics such as autonomy, control or conflict (Barley et al., 2017; Hinds & Kiesler, 2002; Porter & van den Hooff, 2020). The physical structures and places underlying remote and mobile work have received growing attention to better understand their role in digital work. This increasing attention is reflected in integrative reviews bringing together the research from different fields (de Vaujany & Mitev, 2013; Taylor & Spicer, 2007; Weinfurtner & Seidl, 2019).

1.2 Spatiality of work

Despite pronounced changes in the physical setting of digital work, most of our management and social science literature about digital work does not take physical place into account. At the same time, the scattered research and fuzzy definitions of the various digital work phenomena hinder

our efforts to understand and compare them with each other. Therefore, I propose to take a spatiality lens in my dissertation, as I outline hereafter.

The notion of spatiality has received increasing attention in practitioner and academic conversations to, broadly, address the changes concerning places of work, specifically the increasing mobility and remoteness of work settings. While place and space are differently defined across the literature (e.g., Brown & O'Hara, 2003; Dourish, 2006; Harrison & Dourish, 1997), in this dissertation, I will use *space* to refer to the digital world and *place* to refer to the physical environment. Also, the term workplace denotes a wide variety of individual locations, spanning corporate offices, mobile workplaces (e.g., trains, planes) or coworking spaces. This reflects the increasingly "dizzying array of choices" in workplaces (Elsbach & Pratt, 2007, p. 182) that emerged in relation to the digital technology allowing organizations and their workers to work flexibly across locations .

To understand how place matters in digital work, I propose three increasing degrees of spatiality of work settings. I distinguish between hyperspatial, semispatial, and sedentary degree of spatiality, which can be characterized along the dimensions of mobility and remoteness (Table 1.1). Thereby, mobility and remoteness are conceptualized as the context rather than the object of study and their combination reflects a work setting's degree of spatiality. This allows me to study how workers experience and deal with different degrees of spatiality, and their consequences. I elaborate on each degree of spatiality and identify the associated key challenge for the workers hereafter.

1.2.1 Hyperspatial

When a work setting is hyperspatial, the worker continuously changes between a multitude of geographical locations and is remote to colleagues and clients. For a hyperspatial work setting, workers mobilize their resources by digitizing them, such as the hardware, access to files and professional support, and conduct productive activities (Ciolfi & de

Carvalho, 2014). Nevertheless, the continuous changes of locations and people regularly put the worker in new physical and social settings, which makes *stability* of work settings a challenge. To stay productive in a hyperspatial setting, workers need to deal with the uncertainty that is inherent to it: uncertainty of how they can connect socially and digitally to people and resources.

To complicate matters, physical environments differ in how they afford and hinder certain activities and workers "shape and re-appropriate [the] spatial infrastructure according to their needs and comfort" (Bilandzic, 2013, p. 223). For example, they interact with the physical environment by unpacking materials (Gripsrud & Hjorthol, 2012) or by reaching out to others to create a sense of belonging in a new location (Polson, 2013). As the repertory of places broadens where work activities can be conducted and workers have the increasing technological ability to set up shop anywhere irrespective of a specific geographic location (Barley et al., 2017; Kiesler & Cummings, 2002; Porter & van den Hooff, 2020), we need to understand how workers interact with the material environment and to identify the commonalities and differences between the places.

In *chapter 2,* I investigate the intricate issues of how work is conducted in hyperspatial settings by studying, in an exemplary capacity, entrepreneurial and freelance digital nomads who mobilized their resources to achieve location-independence and change workplaces frequently (Jarrahi et al., 2019; Reichenberger, 2017; Sutherland & Jarrahi, 2017). Furthermore, though the employees in *chapter 3* are to a lesser extent mobile and are so for work purposes, their experience can also shed additional light on how employees deal with the challenge of stability when trying to collaborate during a time of change to their workplaces.

1.2.2 Semispatial

I refer to a work setting as semispatial when it is characterized by mobility between recurring workplaces and that workers are often remote to colleagues and, or, clients. Similar to a hyperspatial setting, workers have

considerable freedom of movement and need to mobilize most resources (Ciolfi & de Carvalho, 2014). However, some of the uncertainty that is present in hyperspatial settings is mitigated in the semispatial setting by the recurrence of workplaces. Rather, the key challenge in semispatial settings stems from the asynchronous movement of workers between multiple locations. Asynchronous means that each digital worker is a moving piece in the network of their (work) organization. And as workers can work increasingly mobile and remote to each other (Barley et al., 2017; Kiesler & Cummings, 2002; Porter & van den Hooff, 2020), their movements are not necessarily synchronous towards the same locations at the same time. The need to meet others combined with the asynchronicity of people's movement across workplaces creates the challenge to *coordinate* people across digital and physical places in order to conduct work.

Semispatial work settings where workers – often mobile knowledge workers – conduct work, can be "multiple locations such as customer sites, company offices, their homes, vendor offices, planes, and hotels" (Richman et al., 2001, p. 9). Research on mobile knowledge workers has been particularly concerned with how mobile knowledge workers deal with the physical environment of a specific type of place, e.g. offices (Fayard & Weeks, 2006; Garrett et al., 2014; Irving et al., 2019; Oldham & Brass, 1979; Spinuzzi, 2012) or the digital infrastructure to bridge distance between people (Erickson & Jarrahi, 2016; Mark & Su, 2010; Polson, 2013). Thereby, prior research overlooked the multitude of places that are part of the worker's repertory.

In *chapter 3,* I examine how typical mobile knowledge workers deal with the removal of a central workplace to their set of recurring workplaces, thereby changing their semispatial setting from being somewhat remote to colleagues to being fully remote and how it impacts their work relationships. In addition, in *chapter 4* I test the implications of (not) sharing an office with colleagues for accessing information about work and interacting with colleagues.

1.2.3 Sedentary

Despite the technological advancements, not all workers can or want to work in hyper- or semispatial settings but are in a sedentary setting. I refer to a work setting as sedentary when there is very limited to no movement between workplaces. And if there is movement, then it is usually restricted to commuting from and to work. In terms of remoteness, workers either share a workplace with colleagues (not remote) or work from home (remote). With this conceptualization, I bring two phenomena, remote work and working from home, together in one category. I do so because both work settings are primarily characterized by remoteness to colleagues and clients. This is not to say that mobility is irrelevant in these work settings but rather that it is more optional. The continuity of the physical setting gives rise to a different challenge than the settings with more movement. Specifically, being exposed to the same place and its spatial characteristics makes it important to consider how the workers perceive the place's characteristics and how these perceptions shape their behaviors. The challenge here is to *interact effectively* with others to share and implement ideas. For example, innovative behaviors plays a vital role in a company's success (Martins & Terblanche, 2003; Pisano, 2015) as well as in the maintenance and improvement of its functioning (Amabile et al., 2005; Janssen, 2000; Kanter, 1988; Van de Ven, 1986). This is particularly relevant as organizations adapt to the growing interrelatedness of our jobs (Khazanchi et al., 2018) and dynamics in the organization's environment (Grant & Parker, 2009). Many new ways of working, such as offices characterized by high transparency, are supposed to foster innovative behaviors (Moll & de Leede, 2016; Moultrie et al., 2007).

Therefore, in *chapter 4,* I test the link between workplace transparency and innovative behavior in the context of typical office knowledge workers and how remote work moderates this relationship. Also, in *chapter 2*, I explore how workers engage with their physical environment to support or hinder interactions with the other people in the same place.

Table 1.1 Degrees of spatiality and key challenges

Degree of spatiality	Characteristics	Key challenge for workers	Associated chapters
Hyperspatial	***Mobility***: between continuously new geographical locations and workplaces. ***Remoteness***: to colleagues and clients. Most resources are mobilized or can be accessed from afar.	***Stability***: to stay productive in a hyperspatial setting, workers need to deal with uncertainty. The continuous change in locations and people puts the worker in new spatial and social settings, which makes stability of work settings a challenge.	Mainly chapter 2, also found in chapter 3.
Semispatial	***Mobility***: between a variety and recurring workplaces. ***Remoteness***: more often than not to colleagues and clients but with occasions of sharing a workplace. Some resources are mobilized.	***Coordination***: in semispatial settings, people have considerable freedom of movement. The asynchronicity of people's movement creates the challenge to coordinate people across digital and physical places in order to maintain work relationships.	Mainly chapter 3, also found in chapter 2 and 4.
Sedentary	***Mobility***: no mobility or restricted to commute from and to work. ***Remoteness***: usually sharing an office with colleagues and resources are local but also, even in combination, people working from home with mobilized resources.	***Interaction***: while the physical environments are dynamic in semispatial and hyperspatial settings, they are stable in sedentary settings. The challenge here is to interact effectively with others to share and implement ideas. This is complicated by sometimes being remote from colleagues.	Mainly chapter 4, also found in chapter 2.

1.3 Research approaches and settings

To understand how physical place matters in digital work, I use different methods. The studies in *chapter 2* and *3* are inductive and qualitative while I take deductive and quantitative approach in the study in *chapter 4*. The choice for different methodologies stems from the nature of the specific research problems in each chapter in combination with state of the literature that informed our understanding of these problems. Also, the overall research question can be best answered by using different methods, such that it allows me to first explore qualitatively the role of place and, subsequently, test how it affects specific worker behaviors. As a result, each study is based on a separate and particularly suitable dataset, which I collected in unique contexts (different levels of spatiality; freelancers and employees). Hereafter, I discuss how the different data sets help me to answer my research questions.

By conducting qualitative research, researchers are able to gather "rich and meaning-embedded descriptions of management-related phenomenon or organizational anomalies" (Bamberger & Ang, 2016, p. 2). My choice of a qualitative approach is in line with previous workplace research, thereby suggesting that it is appropriate to explore workplaces in this way (Elsbach, 2003; e.g., Fayard & Weeks, 2006; Rockmann & Pratt, 2015). A qualitative approach requires to understand the work of the actors (Barley & Kunda, 2001) to gain insights and draw conclusions. A qualitative approach is especially suitable for new phenomena, which are fuzzy by definition and warrant open-ended exploration.

To fully grasp the challenge of stability in hyperspatial settings, digital nomads present the ideal opportunity to do so. They are a new phenomenon of how professionals organize for work in an extremely mobile and remote way (hyperspatial setting), which differs from what I found in the extant literature, such as mobile knowledge workers or expats. Therefore, in *chapter 2,* I conduct 45 interviews with digital nomads between fall 2015 and fall 2017. During the interviews, I grasp to understand the challenge of stability and how these workers conduct work,

what conditions need to be met to do so and how different aspects in places afforded them. As the interviews accumulate, I complement them with field observations and I conduct 104 hours of observations in ten co-working spaces, visit a two-day practitioner's conference about digital nomads and embark on a two-week embedded field visit to two digital nomad hotspots. Especially the field visit allows be to further improve my understanding of the challenges that digital workers encounter in a hyperspatial setting, how they create temporary work environments to address the challenge of stability and what role the physical environment plays. I can observe in others as well as experience myself by seeing firsthand what it means to be nomadic.

Similarly, in *chapter 3*, I build on the findings about working in multiple places but here I seek to understand the challenge of coordination in semispatial work settings in an organizational context. This study takes place at a global company, TechSub, which temporarily closed their office for renovation while continuing 'business as usual'. During this radical change, I investigate how workplace configurations shape work relationship. I collect 25 interviews, 25 video blogs and 135 pages of documents that cover a period of around two years of TechSub's office transformation. Already during the data collection, I iterate between data and literature to develop an understanding of the issues at hand and provide a gateway for subsequent data collection. As I code the data, I create an in-depth account of how the temporary closure of the office affects the employees' relationships with coworkers, and how they cope with the challenge of coordination.

Lastly, the sedentary work setting requires a different kind of approach because, in *chapter 4*, I address a different kind of research problem, namely "transform[ing] poorly understood phenomenon into distinct and measurable constructs" (Bamberger & Ang, 2016, p. 3), thereby making it ideal for a quantitative approach. I study the challenge to interact effectively. Also, I focus on whether the spatial characteristic workplace transparency increases employees' innovative behaviors in open offices, and how workplace flexibility moderates this relationship. To do so, I

conduct a survey with 368 respondents at a Dutch construction company, BuildCo, which implemented open-plan office in combination with a workplace flexibility policy. I hypothesize that workplace transparency will be positively related to both innovative behaviors but that the relationships will be dampened by high workplace flexibility. The regression analysis follows to test our hypotheses, thereby providing insights into effective interactions in the sedentary setting.

1.4 Dissertation outline

In this dissertation, I conduct three studies with specific research questions using different approaches and methods as discussed above. A summary of the three studies can be found below and in Table 1.2.

In *chapter 2,* I follow my curiosity to understand an emerging phenomenon of nomadic workers who – other than mobile knowledge workers (Brown & O'Hara, 2003) – combine working with traveling for pleasure and digitize work processes to achieve location-independence. I investigate how these digital nomads create temporary workplace through interacting with their physical environments. Taking an affordance lens (Fayard & Weeks, 2007; Gibson, 1979), I ask the research question*: How are workplaces enacted in nomadic work?* Through in-depth interviews and observations, I show that – while digital nomads aim for location-independence by digitizing their work processes – the workplace is actually in the foreground of their organizing. I start by identifying the challenges of nomadic work: working across places, conducting focused work, and embedding socially. Then, I show how the nomadic workers solve these challenges by enacting three affordances of nomadic work: malleability, privacy, and instant sociality. Additionally, I compare three typical workplaces of nomadic work based on the prevalence of the affordances. I conclude that many places have the potential to become a workplace depending on how the worker perceives the physical and social features, and which type of work they intend to conduct there. This provides insights to the hyperspatial work settings and I reflect on these findings and what

they imply for our understanding of contemporary work and workplaces.

While the first study in *chapter 2* zoomed in on mostly freelance workers, my second study in *chapter 3* concentrates on workers in an organizational context. I investigate how workplace configurations – an individual worker's arrangement of workplaces in a specific combination – shape their work relationships, and particularly how workers cope with a radical change to their workplace configuration. This study is guided by the research question: *How do workplace configurations shape work relationships, and how do employees cope with changes to their workplace configurations?* By drawing on interviews, documents and video blogs, I present three dimensions of workplace configurations: shared centrality, locational transparency and negotiated legitimacy. I find that a change in the workplace configuration's dimensions affected their work relationships. Specifically, I find three relationship layers, namely core, mid and peripheral layer. Their closest relationships intensify, whereas their mid-layer and peripheral relationships dilute. Furthermore, I also find that the employees are able to cope with the loss of the office by reconfiguring around new physical and digital centers, except for mimicking chance encounters and situational richness. I discuss the implications of these findings in a semispatial setting for our understanding of work relationships and studying workplaces.

Third, in *chapter 4,* I bring a concept to the foreground that the literature on open-plan offices has primarily treated as context: workplace transparency. I hypothesize and test whether workplace transparency, defined as access to information about other's presence, behavior, expertise and responsibilities, increases the innovative behaviors of idea sharing and idea implementation, as well as a moderating role of workplace flexibility on this link. Therefore, I ask: *What is the impact of perceived workplace transparency on employees' idea sharing and idea implementation? And to what degree does workplace flexibility influence this relationship?* Based on survey data at a Dutch construction company, I find that, in line with my hypotheses, transparency was positively associated with idea sharing.

Table 1.2 Overview chapters and research output

Chapter	Purpose and research question
2. Moving between places: Affordances of nomadic work Co-written with Marleen Huysman, Svetlana N. Khapova and Evgenia I. Lysova	Chapter 2 addresses the hyperspatial setting of digital nomads and how they create temporary workplaces through interacting with their physical environments. Focuses on the research question: *How are workplaces enacted in nomadic work?*
3. Reconfiguring workplaces: Exploring the relational implications of an office closure Co-written with Marleen Huysman, Svetlana N. Khapova and Evgenia I. Lysova	Chapter 3 focuses on what the role of an individual worker's arrangement of workplaces is for work relationships in semispatial settings. Guided by the research question: *How do workplace configurations shape work relationships, and how do employees cope with changes to their workplace configurations?*
4. Ideas in place: Introducing a transparency perspective on innovative behaviors Co-written with Evgenia I. Lysova and Svetlana N. Khapova	Chapter 4 introduces the concept of transparency that is primarily treated as context when studying sedentary work settings. Hypothesized link to innovative work behaviors under conditions of workplace flexibility: The question is: *What is the impact of perceived workplace transparency on employees' idea sharing and idea implementation? And to what degree does workplace flexibility influence this relationship?*

Concepts	Sample and data	Output
Affordances Nomadic work Contemporary workplaces	45 semi-structured interviews with digital nomads 124 hours of observations across countries Two-week field visit	Accepted for and presented at OLKC in 2016 (Edinburgh, Scotland), EGOS in 2017 (Copenhagen, Denmark), and AOM 2018 (Chicago, USA). Published book chapter (Brakel, Cnossen & Schlegelmilch, 2021).
Workplace configuration Relationship layers Distributed and co-located work	25 semi-structured interviews with employees & managers at a global technology company 25 video blogs 135 pages of internal and documents	Accepted for presentation at IHRM in 2020 (Paris, France).
Workplace transparency Workplace flexibility Innovative work behaviors	Survey with 368 respondents (employees, managers) at a Dutch construction company	Accepted for and/or presented at EM Lyon workshop in 2019 (Chamonix, France), AOM in 2019 (Boston, USA) and EAOHP in 2020 (Nicosia, Cyprus).

However, this relationship only holds under conditions of low workplace flexibility in a sedentary setting.

Lastly, in *chapter 5,* I bring the findings of the three empirical studies together and consolidate them by situating them in the literature. Furthermore, the boundary conditions, limitations and future research directions are discussed to provide not only the parameters but also an outlook.

2 MOVING BETWEEN PLACES

AFFORDANCES OF NOMADIC WORK

"You can just open your laptop whenever you want to and say: okay, now I'm going to work. You can also just close it and say: [...] it's time to be off work and do something fun because I'm in this awesome location."

- Edith (2016)

Summary

How do workers conduct work despite continuously changing locations in nomadic work? This paper examines how digital nomads – who combine working with traveling for pleasure and digitize work processes to achieve location-independence – create temporary work environments. We show how they solve the challenges of nomadic work: working across a variety of places, conduct focused work, and embed socially. We do so by taking an affordance lens in our qualitative study of these highly mobile knowledge workers. Through interviews and observations, we discovered that these knowledge workers enact three affordances of nomadic work: malleability, privacy, and instant sociality. Also, a comparison of typical places in nomadic work along those affordances indicated that we need to broaden our understanding of the concept workplace. These findings demonstrate that when studying location-independent work, it is essential to take place into account.

I wrote this paper together with Marleen Huysman, Svetlana N. Khapova and Evgenia I. Lysova. Many thanks also to Amanda Porter, Marlous Agterberg and Maura Soekijad for their constructive feedback. Earlier versions of this paper were accepted, peer-reviewed and presented at OLKC in 2016 (Edinburgh, Scotland), EGOS in 2017 (Copenhagen, Denmark), AOM in 2018 (Chicago, United States of America).

2.1 Introduction

Digital nomads work anywhere and anytime (Chayka, 2018), as physical places have become irrelevant for this digital workforce's organizing. Or have they not? While nomadic workers conduct work in highly autonomously, characterized by substantial discretion over the 'when' and 'where' of working, I argue that place is more relevant than ever to their organizing. Having not one designated place to work, the modern worker's work environments vary immensely, from co-working spaces (Garrett et al., 2014; Gerdenitsch et al., 2016; Kingma, 2016; Spinuzzi, 2012), third workplaces like cafés or libraries (Bilandzic & Foth, 2013; Di Marino & Lapintie, 2015; Kingma, 2016). Work can be conducted independently of a designated place, but it is unclear what exactly enables nomadic work in the variety of places.

Recent work has defined the boundaries of digital nomadism, namely as professionals using digital technologies to work online and achieve location-independence and, to varying extents, combine working and traveling (Müller, 2016; Reichenberger, 2017). Drawing on the related literature about mobile knowledge workers – who work in different places and in a mobile manner but have a stable living location (Cohen, 2010) – does not seem to allow us to fully understand what we observed in our research on nomadic workers. Digital nomads are a contemporary work phenomenon that is distinct from other phenomena in the extant literature, such as mobile knowledge workers or expats. For example, mobile knowledge workers create work environments in mobile settings (Brown & O'Hara, 2003; Erickson & Jarrahi, 2016; Humphry, 2013; Liegl, 2014; Moores & Metykova, 2009) but, in contrast to digital nomads, mobile knowledge workers travel for work (Brown & O'Hara, 2003). Digital nomads' motivation to travel and work location-independently is "inextricably connected with freedom to learn and experience" (Reichenberger, 2017, p. 9), and work and leisure are not separated. When work and life are not spatially separated anymore, this has implications for how workers interact with places as well.

Increasingly, place has played a role in theory development as an essential part of work (Ayoko & Ashkanasy, 2020; Davis, 1984; Khazanchi et al., 2018). And while we know what digital nomads are, we know little about how physical places enable how they work. This is the focal concern of our paper. The extant literature on digital nomads has focused on the digital space (Jarrahi et al., 2019; Jarrahi & Thomson, 2017). In the broader literature on workers, place is often treated as the backdrop, or something fixed that influences behavior and satisfaction of workers (Davis, 1984; Sundstrom et al., 1980, 1994). To understand how digital nomads interact with the physical place, we apply an affordance lens (Fayard & Weeks, 2007; Gibson, 1979), which focuses on the interaction of actor goals and intentions with the material environment, instead of looking at each of them as separate entities (Gibson, 1979). From this follows our research question: *How are workplaces enacted in nomadic work?*

In this paper, we study how digital nomads work in places by drawing on 45 interviews, 124 hours of observations in (work)places, a full-time two-week field visit as well as participation in a digital nomad conference. Our participants vary widely across professions (e.g., coaches, consultants, programmers) and across degrees of mobility. Through analyzing the qualitative data, we traced the affordances of nomadic work.

This paper makes contributions to the literature on digital nomads and contemporary workplaces. First, we contribute to the evolving body of literature on digital nomads (Jarrahi et al., 2019; Müller, 2016; Reichenberger, 2017; Sutherland & Jarrahi, 2017) by showing how digital nomads enact affordances to solve the challenges in organizing for nomadic work. We provide a detailed account of the three affordances of nomadic work: malleability, privacy and instant sociality. Second, our study advances the discussions on contemporary workplaces. Previous research has investigated new work locations separately, such as co-working spaces (Garrett et al., 2014; Gerdenitsch et al., 2016; Spinuzzi, 2012) and third workplaces (Kingma, 2016). We extend this work by comparing three typical workplaces of nomadic work with each other, namely co-working spaces, cafés, and housing. In doing so, a paradox became apparent, namely that

place moves from the background to the foreground in location-independent work. A final contribution of the paper is to the discussion of how modern workplaces blur the spatial boundary between work and leisure (Cousins & Robey, 2015; Prasopoulou et al., 2017). It seems that for digital nomads, the distinction between work and life is irrelevant.

In the rest of the paper, we adhere to the following structure. First, we situate the current study in the literature on digital nomads, contemporary workplaces, and the theory of affordances. We discuss how the affordance lens became our way to understand this emerging way of working. Second, we describe our methods of data collection and analysis. Third, we use the results section to zoom in on the affordances of nomadic work in the temporary workplaces, as well as the variations of physical environments. Lastly, we end by discussing the theoretical contributions to the field of digital nomads and contemporary workplaces.

2.2 Theoretical background

The physical places and digital spaces where we conduct work are crucial to our understanding of how we work. The fascination amongst scholars about how the increasing speed of technological innovation affects work (Barley et al., 2017; Colbert et al., 2016) intersects with the 'spatial turn' in organization studies (de Vaujany & Mitev, 2013; Kitchin & Hubbard, 2016; Van Marrewijk & Yanow, 2017; Weinfurtner & Seidl, 2019). Over the years, a wealth of literature has addressed the importance of the physical environment in organizations, as several reviews in the field of organization and management attest (Ashkanasy et al., 2014; Davis et al., 2011; Davis, 1984; Elsbach & Pratt, 2007). Hereafter, we will provide a brief review of three literature streams – contemporary workplaces, digital nomads, theory of affordances – to provide a starting point for our study.

2.2.1 Contemporary workplaces

Organizing for work has changed as digital technologies enable

professionals to work independently of designated locations (Barley et al., 2017). Specifically, the increasingly available data infrastructure (Colbert et al., 2016; Johns & Gratton, 2013) plays a pivotal role in pushing the spatial boundaries of work within and beyond organizations (Azad et al., 2016; Mazmanian et al., 2013). Within organizations, managements implement open office plans and workplace policies to increase flexibility and reduce facility costs (Baldry & Barnes, 2012; Brennan et al., 2002; Lee & Brand, 2005; Oldham & Brass, 1979). Work has expanded to locations beyond the organizational boundaries, and working is not constrained to "permanent and fixed locations" anymore (Hislop & Axtell, 2009, p. 60), such as the office or the home (Ashford et al., 2007; Bailey & Kurland, 2002; Boell et al., 2016).

The ability to conduct work seemingly from 'anywhere and anytime' (Chayka, 2018) has created an increasing amount of choice for workers, particularly those autonomous over their location of work. Increasingly, space [place] has also been recognized to play a role in theory development as an essential part of work (Ashkanasy, Ayoko, & Jehn, 2014; Davis, 1984). While many workers may not be bound to a specific work location anymore, places are still central to organizing for work. For example, co-working spaces – which are shared office facilities provided by a third party – offer flexible workplaces for a distributed network of entrepreneurs to fulfill their need to connect with others for networking all around the world (Spinuzzi, 2012). They offer an alternative to more conventional work locations (Garrett et al., 2014; Gerdenitsch et al., 2016; Kingma, 2016; Spinuzzi, 2012). Furthermore, third workplaces (Kingma, 2016), such as cafés and public places, are increasingly popular amongst freelance professionals for networking, and being inspired. Even employees work 'on the go', e.g., on the way to a meeting (Azad et al., 2016) or during the commute (Gripsrud & Hjorthol, 2012). Overall, workers have become "accustomed to working in an assortment of locales" (Kurland & Bailey, 1999, p. 55).

The variety of places where people conduct work nowadays – designated and non-designated – illustrates that we need to look at places not only based on their intended use but also on how users perceive them to be used. While in some places you can work instantaneously, as an office,

others require actions by the workers beforehand. In other words, workers need to "shape and re-appropriate spatial infrastructure according to their needs and comfort" (Bilandzic, 2013, p. 223), which has earlier been referred to as place-making[1]. For example, by unpacking materials (Perry & Brodie, 2005) or, more broadly, by reaching out to others to create a sense of belonging in a new location (Polson, 2013). Previous studies indicate that these activities are necessary for nomadic and ubiquitous work (Mark & Su, 2010; Rossitto & Eklundh, 2007; Sørensen & Gibson, 2006), thus the extant literature has provided some insights into how mobile knowledge workers use a variety of places within their organizing practice. However, this assumes that places are a neutral resource to be used by the worker in any way desirable. However, the material environment – like any material object – affords *and* constrains worker's behavior.

2.2.2 Digital nomads

Digital nomads draw on digital technologies to engage in digital work, achieve "mobility of resources" (Ciolfi & de Carvalho, 2014, p. 120) and combine this with traveling (Müller, 2016; Reichenberger, 2017). The main differences to other types of workers, such as mobile knowledge workers and expats, stem from the purpose underlying the worker's mobility and the frequency of the worker's mobility. Mobile knowledge workers are defined as workers who work „in multiple locations such as customer sites, company offices, their homes, vendor offices, planes, and hotels" (Richman et al., 2001, p. 9). While this definition indicates that regular mobile knowledge workers have to travel for their work (Brown & O'Hara, 2003) and work determines the travel destinations, digital nomads *choose* to travel to 'design their life' by staying or moving on at any given

[1] Place-making originates in the field of human geography (e.g., Brown & O'Hara, 2003; Cresswell, 2009). More recently, scholars have applied place-making within the disciplines of communication (e.g., Moores & Metykova, 2009; Polson, 2013), information science and CSCW (e.g., Humphry, 2013; Jarrahi & Thomson, 2017; Liegl, 2014; Rossitto, 2009) to research mobile knowledge work practices.

moment. The choice of destination is not determined by their business but by a search for adventure and freedom (Jarrahi et al., 2019; Reichenberger, 2017; Sutherland & Jarrahi, 2017). This often leads them to exotic locations, such as Bali (Chayka, 2018), and in some locations digital nomad communities develop (MacRae, 2016). Also, in comparison to expats, the intensity and frequency of changing locations for digital nomads are much higher because expats tend to stay up to several years in a place. Thus, digital nomads belong to the 'kinetic elite' (Costas, 2013). Lastly, digital nomads are not only location-independent but also mostly organization-independent, as they are self-employed or entrepreneurs (Liegl, 2014).

Recent studies have defined the boundaries of the phenomenon 'digital nomad' (Aroles et al., 2020; Müller, 2016; Reichenberger, 2017), but otherwise, research on digital nomads has been very limited and dispersed. For example, in the field of tourism studies, a study describes the relationship between the digital nomad community and the locals as 'optional' and detached (MacRae, 2016). Furthermore, studies within the discipline of Computer-Supported Cooperative Work studied how digital nomads work, such as knowledge management (Jarrahi et al., 2019), branding or contracting (Sutherland & Jarrahi, 2017). Both studies emphasize how nomadic workers rely heavily on digital tools to enable work as well as an active community dimension for knowledge management (Jarrahi et al., 2019; Sutherland & Jarrahi, 2017). Also, they found that digital nomads "make places" by "bringing local situations, and whatever resources they might provide, into harmony with nomadic work practices" (Sutherland & Jarrahi, 2017, p. 13). An earlier study in this field also narrates the careers of two nomads in the form of two life stories (Czarniawska, 2013). This making of places emphasizes the necessity to "bring local infrastructural affordances into sync with more global, more broadly accessible infrastructural elements" (Sutherland & Jarrahi, 2017, p. 13) and suggests that despite these worker's highly digital work practices, place may be more in the foreground of organizing than we know so far.

2.2.3 Theory of affordances

The theory of affordances was initially proposed by Gibson (1979). Affordances refer to action possibilities that emerge in the interaction of an individual's intention, perceptions, and goals with their material environment (Gibson, 1979). For example, a nomadic worker may perceive cafés as a place to work, whereas a tourist perceives it as a place to relax. This example illustrates that any object or environment can be used in a variety of ways, can have different affordances, and thereby can also have different effects on the organization of work (Fayard & Weeks, 2006; Zammuto et al., 2007). Thus, affordances are inherently relational, as they are "constituted in the relationship between people and the materiality of the things with which they come in contact" (Leonardi & Vaast, 2017, p. 146). Instead of perceiving what something *is,* workers perceive what kinds of uses it affords (Leonardi & Vaast, 2017). Affordances are situated and emergent in practice (Faraj & Azad, 2012). Thus, instead of focusing only on the 'means' (the material environment) or the actor (the organizer doing the organizing), we are able to zoom in on the results of the interaction of both.

The theory of affordances has been widely used in human-computer interaction (Norman, 1999) as well as in studies on IT artifacts (Faraj & Azad, 2012). Common perspectives are technological affordances (Norman, 1999), relational affordances (Faraj & Azad, 2012) or perceived affordances (Norman, 1999). In particular, we draw on Fayard and Weeks (2006) who emphasize the social aspect of affordances and state that it is not sufficient to only consider the physical features of a place. Rather, when studying affordances, it is also necessary to consider the norms and routines in a place (Fayard & Weeks, 2006).

So far, affordances have been studied in the digital context of organizations (Leonardi & Vaast, 2017; Oostervink et al., 2016; Treem & Leonardi, 2012), as physical affordances of objects and technology in disciplines like industrial design (Norman, 1999) but much more infrequently in workplaces (Fayard & Weeks, 2006). Most informative is the study by Fayard and Weeks (2007) who focused on informal interaction in

the office and found three relevant affordances: *privacy, proximity,* and *social designation*. *Privacy* refers to the possibility to control the boundaries of a conversation (acoustically and temporally). This definition builds on a large body of research focusing on the flow of information between self and other, and vice versa (Laurence et al., 2013; Sundstrom et al., 1982). When privacy is low in a workplace, workers can feel monitored (Laurence et al., 2013). The material features enabling the enactment of this affordance are often described as physical structures that create (semi-)enclosed places (Fayard & Weeks, 2006). While enclosures are common in conventional offices with smaller rooms, workers need to activate this affordance when working in more open places such as open offices or co-working spaces. The second affordance, *proximity,* is the possibility to be physically close, which stems from the physical and/or functional centrality of a place (Fayard & Weeks, 2006). For example, if a room where people need to be to do their work, such as a photocopy room, has functional centrality. By arriving at this conceptualization of proximity, the authors provided a different understanding of proximity than extant literature. Though many scholars have studied proximity, it is most often interpreted as geographical distance between two people (e.g., Bernstein & Turban, 2018; Khazanchi et al., 2018; Sundstrom et al., 1994). And lastly, *social designation* refers to the feeling of legitimacy to be in a place that stems from its "geography, architecture and function" (Fayard & Weeks, 2006, p. 623). These three affordances highlight that understanding the social component (the actor), or the material component (physical or digital) separately is not sufficient (Table 2.1). Instead, it is their interaction that explains how people use places. Also, their study showed that places have physical and social elements (e.g., norms, rules) that play into the interaction of the actor with the environment.

While we have learned from Fayard and Week's (2006) study about affordances in a conventional office, the places and affordances of nomadic work are most likely different, and we are interested in studying them for several reasons. For one, the physical environment is varied and continuously changes for nomadic workers (as shown in the previous section). Thus, when workers do not have one designated or fixed location,

Table 2.1 Affordances in workplaces and the literature

Affordance	Definition	Features for affordance	Illustrations in the literature
Privacy (Fayard & Weeks, 2006)	Possibility to control the boundaries of the conversation (acoustically, temporally)	• walls • enclosures • barriers	Carlopio & Gardner, 1992; Fayard & Weeks, 2006; Humphry, 2013; Oldham & Brass, 1979
Proximity (Fayard & Weeks, 2006)	Possibility to be physically close	• physical centrality • functional centrality	Fayard & Weeks, 2006
Social designation (Fayard & Weeks, 2006)	Possibility to feel legitimate to be in a place	• geography • architecture/ • function of room	Fayard & Weeks, 2006; Perry & Brodie, 2005

workers need to continuously 'see' affordances in the environments and decide to act upon them. The question that arises is whether workers enact the same affordances across different places.

Second, Fayard and Weeks studied affordances in the context of a fixed group of colleagues who were co-located in an office. A shared social setting, such as a fixed group of colleagues, creates similarities between workers' experiences (Kiesler & Cummings, 2002), but when this is missing, norms and routines (the social aspect of affordances) need to come from different sources. Lastly, digital technology is essential to the digital nomads' way of working. Thus, we need to reflect on the role they play for affording nomadic work. Taken together, we believe the context of nomadic work offers the ideal context to study affordances in a different setting because they work digitally in continuously changing places (Müller, 2016; Reichenberger, 2017) and without a fixed group of colleagues, allowing us to study if there is a pattern across these locations. Thereby, we aim to contribute towards answering the questions about how organizing for work is changing as digital technologies enable professionals more and more to

work independent of pre-defined locations (Colbert et al., 2016).

2.3 Data and methodology

Digital nomads are a new phenomenon of how professionals organize for work that differs from other phenomena in the extant literature, such as mobile knowledge workers or expats. Therefore, exploration is of value. We iterated between the data and existing theory, which is in line with the inductive approach (Eisenhardt, 1989). Our initial focus was to find out how nomadic workers create temporary work environments in their hypermobile setting. During the initial rounds of analyzing the data, the theory of affordances emerged as a suitable lens, and we decided to change our research question to accommodate the new focus.

2.3.1 Data sources

This article is grounded in data that we collected from a qualitative exploratory study of digital nomads between October 2015 and November 2017. The primary unit of analysis was located at the level of affordances, and through interviews and observations, we focused on the lived experience and natural field data (Silverman, 2011). We collected 45 semi-structured interviews (English, Dutch, or German) and ca. 124 hours of observation (Table 2.2).

Early in the data collection, we discovered that we wanted to focus on the extreme end of the digital nomads' mobility (Reichenberger, 2017) because this allowed us to gain a more in-depth understanding of the phenomenon (Eisenhardt, 1989; Jahnukainen, 2012). Thus, we decided to focus our attention on informants who fit the following description: mobile professionals who work despite of changing locations, using digital technology to do so, and traveling for pleasure (rather than business). Using these criteria, we sampled our respondents through a snowball strategy using our personal network, social media (Facebook, Twitter), designated internet platforms (nomadlist.com), and field visits. While the contact via our

Table 2.2 Overview data and sample characteristics

Data	Data characteristics	Purpose
45 interviews (P#)	• average duration of 65 mins; 47 to 113 mins (exception: one interview in two sessions of 90 mins) • #3, #12: were interviewed twice • #33, #34 were interviewed together	Inform understanding of the digital nomad's challenges; provide reflections on workplaces.
25 field notes (fn)	• 124 hrs. (106 pages in total) • 10 visits to 8 co-working spaces (Indonesia, Germany, the Netherlands) • two-week field visit Bali, Indonesia • visit of a three-day conference about digital nomadism (Berlin, Germany)	Reveal the interaction of nomadic workers with their environments.

personal network was straightforward, more care was warranted regarding the other two avenues. We identified Facebook groups by searching for the terms 'digital nomad' or 'location-independent work' via the platform's search engine and then joined the top 10 (based on member count). For this, we used existing personal Facebook accounts, considering that a new account would not convey trustworthiness due to a lack of engagement on the platform (friends, posts). Furthermore, we approached potential participants during field visits and determined in a brief conversation if they would be informative to the study based on the abovementioned criteria. By also sampling participants offline, we aimed to reduce the selection bias. Through the above strategies, we obtained a sample that differed with respect to age (78% was 20-29, 18% was 30-39, 4% was older), gender (72% female, 28% male), experience as a nomad (novice and experienced) and work. Although the specific jobs were different, they shared that it was all knowledge work (Table 2.3). The interviews were typically conducted virtually due to the exceptionally geographically dispersed nature of our sample. During the interviews, we asked questions related to their mobility, workplaces, community, and use of digital technology (see Appendix 2.1 for the full interview guide). We were careful not to use the term digital

nomad before our respondents did. Once they had used the term, we asked what they mean by the term. The semi-structured nature of our interviews further allowed us to tailor the interview if other interesting topics emerged. We interviewed different people in each phase of the research, and our interview guide evolved throughout our study.

Besides interviews, we also found it essential for our understanding and in accordance with inductive methods of the phenomenon to immerse ourselves in the field (Eisenhardt, 1989). We did so by conducting observations in ten co-working spaces internationally (Amsterdam, Berlin, Canggu, and Ubud), visiting a two-day practitioner's conference about (and organized by) digital nomads as well as embarking on a two-week field visit to two digital nomad hotspots in Southeast Asia (Canggu and Ubud). These additional data sources complemented the interview data because (a) people tend to forget to articulate many of their daily routine actions (in interviews) due to the recall effect (Golden, 1992), (b) people tend to construct a coherent self-narrative after the fact (Fachin & Davel, 2015). By observing their actions directly in the field with our participants, we reduced both biases. The field visits permitted us to develop a better understanding of the interactions of the nomadic workers with their material environment.

We took an 'observer as participant' perspective and developed informative relationships with our respondents as well as experiencing different places for work ourselves. A challenge of our 'observer as participant' status was the need to inform digital nomads about us being researchers. This did not lead to exclusion but rather to heightened interest, and we tried to divert this in order not to become an active participant and influence our respondents. As researchers, we sometimes took a moment to walk away from being in the field and allow our reflections on the observations and conversations, which may have led to missing relevant interactions or events.

2.3.2 Data analysis

We integrated the verbatim transcribed interviews, and in-depth

Table 2.3 Overview respondents

#	Pseudonym	Job	Notes
1	Rachel	Academic	
2	Feli	Startup coach	
3	Rob	App developer	Interviewed twice
4	Jacky	Web designer	
5	Lisa	Workshop facilitator	
6	Taylor	Social media marketing	
7	Sander	HR broker	
8	Matt	Offers A-B testing services	
9	Vanessa	Event planner	
10	Tim	Blogger, digital marketer	
11	Zane	Strategy consultant	
12	Nero	Workation organizer	Interviewed twice
13	Stan	Workation organizer	
14	Sanne	Online jewelry retailer	
15	Kendra	Digital marketer	
16	Kylie	Business manager	
17	Georgia	Content strategist	
18	Kenni	Product manager	
19	Nanni	Business service provider	
20	Marc	Co-working spaces provider	
21	Samantha	PR consultant	
22	Emily	Online project manager	
23	Felix	Web designer	
24	Melanie	Online marketer	
25	Jocelyn	Travel blogger	
26	Angela	Startup coach	
27	Sarah	Virtual assistant	
28	Trinity	Virtual assistant	
29	Nadia	Text writer	
30	Natalie	Web designer	
31	Ina	Copywriter	
32	Abigail	Travel blogger	
33	Cate	Online educator	Interview with #34
34	Shauna	Online educator	Interview with #33
35	Teresa	Digital marketer	
36	George	Programmer	
37	Amber	Digital marketer	
38	Ciara	Business manager	
39	Laura	Event manager	
40	Nona	Mobile developer	
41	Edith	Blogger	
42	Nelly	Social media marketeer	
43	Kai	Blogger	
44	Ben	Business consultant	
45	Amy	Digital marketing consultant	

field notes that we collected. The interviews provided us with insights into our respondents' background stories, their mobility, challenges, and coping strategies. The observations complemented the interview data by shedding light on the actual use of places and the affordances of the places. We analyzed the data in an iterative manner, which meant that the two processes of data collection and analysis were interwoven and informed each other, thereby being guided by well-established techniques of inductive research (Gehman et al., 2017; Gioia et al., 2013). In our initial rounds of data analysis, we coded our data in an open manner with a focus on mobility and emerging challenges. From this, we determined a set of first-order codes, and through constant comparison, we reduced the number of first-order codes and created a more concise list. After developing the initial set of first-order codes, specific streams of the literature became relevant (place-making, mobile knowledge workers). As we were contemplating the relationships between the different first-order categories to create second-order categories, we applied the theory of affordances (Gibson, 1979) to make sense of our data. Through this process, Atlas.ti facilitated us in organizing our data as well as the analysis process. And lastly, we used pseudonyms to refer to our respondents, and we reduced identifiable information as much as possible while preserving the integrity of the findings.

2.4 Findings

We found that places, such as co-working spaces, cafés, and housing, afford nomadic workers to enact three affordances – *malleability, privacy,* and *instant sociality*. We define *malleability* as the possibility to shape place temporarily for work; *privacy* as the possibility to control incoming distractions; and *instant sociality* as the ability to develop instant connections with others. These three affordances are the nomadic worker's way to cope with the challenges arising from continuous travel in nomadic work (working across places, conducting focused work, and embedding socially). To support our findings, we provide evidence throughout the

chapter in the text and tables.

2.4.1 Places of nomadic work

In nomadic work, workplaces are not fixed and designated but keep changing as the workers move between locations. While there are many different places where the nomadic workers work, three types of places were most common: co-working space, café, and housing. By co-working places, we refer to shared flexible office-like place provided by a third party to freelancers and entrepreneurs (Spinuzzi, 2012). Cafés are restaurant-like settings with a casual atmosphere, and the nomads' housing ranged from fully equipped apartments or houses, hotel or Airbnb rooms, and occasionally even hostels. However, the latter did not include the surrounding areas (e.g., hotel cafés or lobbies). Other places where work was conducted were only mentioned sparsely: during the commute on a bus, train or plane (4 in 2 interviews), libraries (2 in 2 interviews), and hotel lobbies (2 in 1 interview). In the following, we will characterize and compare the three most common places based on their physical, social, and, where applicable, digital characteristics (Table 2.4).

Co-working spaces, cafés, and housing were not mutually exclusive but rather were part of the nomad's way of working. Co-working spaces (Figure 2.1) offer necessary physical facilities for work, such as tables, chairs, electrical plugs, and a reliable internet connection (fast, stable). While cafés and housing also offered necessary facilities, the quality of the internet connection was less reliable and electrical plugs sparser in cafés, thus hindering the nomads' work:

> *"Even if you didn't come to [co-working space] here in [city on Bali], and you are trying to go to all of the different coffee-shops; it might either be full, they have no plugs, their Wi-Fi doesn't work; you can't connect on Skype. All those things make you so much less productive because you're frustrated trying to even to get work done, and that's not fun." (Cate, online educator, #33)*

Figure 2.1 Coworking space on Bali (Indonesia)

"First is Wi-Fi every time, is it good and consistent? Secondly, are there plugs to plug in your laptop? I feel I have this weird little radar when I am going into any single room, and I am like, 'Where are all the outlets?', 'How can I charge my laptop?' It is the first thing that happens, this little scan. So those two are high on my café rating."
(Kylie, business manager, #16)

In co-working spaces, workers can further choose between flexible or dedicated desks. The desks are distributed across different functional areas, of which one is usually a quiet area for focused work, and another is a social area for collaborative work. In addition, most co-working spaces also offer meeting rooms that can be reserved by the members. These are a crucial part of working in the co-working spaces because only very few co-working spaces have secluded offices available to individuals or companies.

In addition to the work-oriented places, most co-working spaces also have a kitchen area and some form of a relax area. Only a few co-working spaces have an additional café area that is accessible to the general public. In rare cases, though prominent in Bali's co-working spaces, was a variety of outdoor places such as a garden or a pool area. Such a variety in areas is not present in cafés or housing, but instead, it is one type of area, namely a social one in the cafés and a focused one in the housing. The three places also differ a lot among accessibility, such that co-working spaces and housing are often accessible on a 24h-basis (co-working spaces: as part of weekly or monthly memberships) while cafés have specific opening times.

A benefit that was specific to housing was the ease to start working because there was no commute necessary.

Besides the physical facilities, the places also differ regarding the social elements. What our respondents emphasized most about the co-working spaces were the events that could be organized by the co-working space or the members. During our observations, we found that all co-working spaces also had physical announcement boards where the events were promoted. Typically, the events focused on sharing skills (e.g., SEO) or networking and played a considerable role in fostering the community around a co-working space. Community was a crucial element of co-working spaces that other places could not offer:

> *"You don't have a community; if you are at a café, you are more to yourself, which is good because you have more focus but here at [co-working space] you have the community behind you and people who support you." (Laura, event manager, #39)*

While housing and cafés can be used by anyone (for a price), most co-working spaces aim at a target group. The target group can be related to a specific industry (e.g., creative) or company maturity (e.g., scale-ups). Except for one co-working space that used a vetting system to ensure a newcomer's fit, most co-working spaces assumed that people would self-exclude after a while if there was no fit with the community. To facilitate connections between the independent workers within the coworker space, most of the co-working spaces have not only the events mentioned earlier but also community hosts who facilitate connections between coworkers, organize events and are contact person. Co-working spaces also sometimes offer additional services, such as postboxes, an on-ramp program tailored to the coworker's needs, or food. For one respondent, the latter was a specific reason to work in cafés rather than co-working spaces or housing because they did not need to leave the place to eat.

It needs to be noted that while we distinguish between the three types of places, 34 of our 45 respondents worked in all three places. Where

Table 2.4 Characteristics of places

Aspects	Co-working spaces (CWS)
Physical	*Very often* • stable and fast internet • tables and chairs: level of comfort differs • community board for sharing announcements and events • different work areas: focus/silent area, collaboration *Often* • paid access: daily/monthly memberships (fixed/flexible) • kitchen area for (own) food or buy food (extra charge) • meeting rooms (often additional charge) • 24/7 access: depending on the type of membership *Sometimes* • public area (e.g., a café), Relax/outside area (e.g., table soccer, pool) • secluded offices (additional charge)
Social	*Always* • presence of other workers • events: For socializing, skill and knowledge sharing *Often* • communities develop around co-working spaces (local and online) • community hosts *Sometimes* • additional services, e.g. postal address, onboarding specific target group, e.g. creative industry or technology
Digital	*Sometimes* • online community platform, e.g. Facebook group

Café	**Housing**
Very often • tables and chairs: level of comfort differs • food and drinks (full meal availability varies) • noise: different types of noises • paid access (by ordering food/drinks) • accessible within opening hours *Often* • Wi-Fi: speed/stability vary *Sometimes* • electricity plugs • air-conditioning • outside place	*Very often* • proximity of location • paid access *Often* • Wi-Fi: quality differs, hotels tend to have more stable connections than private housing • table and chair • quiet
Often • generally acceptable to work, however sometimes it is explicitly forbidden • expectations about acceptable frequency to order food and/or drinks differ • other guests are strangers	*Often* • alone

Note: Total of 8 co-working spaces visited. Grounding (fieldnotes, interviews) in data: very often = at least 75%; Often = at least 50%; Sometimes = at least 25%; Rarely = less than 25%

they worked on a given day depended on what the intention was to do and how the places afforded specific activities, such as conducting focused work or embedding socially.

2.4.2 Affordances of nomadic work

The continuous travel inherent to nomadic work gave rise to specific challenges to create continuity of the nomad's work environment: working across different places, conducting focused work, and embedding socially (Table 2.5). We found that nomadic workers addressed these challenges by enacting the affordances of *malleability, privacy*, and *instant sociality* (Table 2.6, 2.7). Specifically, they interacted with the places' physical and social aspects (described above), as we show below.

Malleability. The choice where to work, how long to stay, and what tasks to engage in is inherent to nomadic work and represented their professional freedom. By making the workplace a choice, the location where work is conducted was pushed into the foreground of nomadic work. For example, Matt's description of a typical day is representative for our nomadic respondents:

> *"I usually don't go to the same place the next day, I like to switch it up. So usually I go outside, even during the day if I work in the morning somewhere, and often I go and work somewhere else. Just to switch it up again, which is not really the most efficient way. There is travel time, and you have to sit down again." (Matt, AB tester, #8)*

Despite that working in such a variety of places - often even within the span of a day as Matt's quote illustrated – is a choice, it presented a challenge. This is because workers not only moved between the locations, but they also needed to pack and unpack their belongings before being able to work again. In each place, nomadic workers need to construct a new, temporary work environment: *"I still get frustrated sometimes with workplaces, when I have to create them out of nowhere."* (Kai, blogger, #43).

Table 2.5 Challenges in nomadic work

Challenge	Illustrative data
Working across places	"I already move way too much that I have grown to dislike it though, really. Just the actual process of packing all my stuff up and going to the next spot." (Sander, HR broker, #7)
	"I try to go to cafés, to restaurants, sometimes co-working spaces, and I feel that I cannot really work in the same café for a week, I kind of need to change the scene, change the environment." (Tim, digital marketeer, #10)
Conducting focused work	"The work was a challenge for her [intern]. The space [place], I realize was really important. She wasn't able to concentrate just anywhere." (Vanessa, event planner, #10)
	"Just the effort to find a proper location, to get focused with whatever obstacles." (Nona, mobile developer, #40)
Embedding socially	***Personally***
	"But then sometimes, you can just meet ten new people, and then you realize – or you go to your Airbnb and then you realize - I'm still alone." (Lisa, design thinking facilitator, #5)
	"If you are traveling long-term and you are working at the same time, it can become very lonely, and you can lack in community." (Nero, workation consultant, #12)
	Professionally
	"I think a lot of us [freelancers] crave connection. We want to connect with other people and these projects where we can work together and there are opportunities to do that." (Jacky, web designer, #4)

Figure 2.2 Work setup in a café

In order to cope with the variety of workplaces, the nomadic workers enacted the affordance of *malleability*, which is the possibility to shape place temporarily for nomadic work. Ordering the place takes place in the workers' interaction with both the physical and social features of the places. The complexity of the temporary work environment varies across places. A respondent describes his typical set up:

> *"For working, I obviously have a laptop charger. I have a stand because when I work […] I just get really bad neck and shoulder pain if I don't sit right. I got myself a Roost stand […] It allows you to have the laptop at the height you need, I also have a roll-up keyboard, so I can type on a keyboard and a mouse. What else do I have? [...] I'm using an app called Duet, which basically lets me use my iPad as an extra monitor." (Kenni, product manager, #18)*

During our fieldwork, we observed how people set up temporary work environments in cafés and co-working spaces. For example, in cafés, the setup tended to be rather simple with just the laptop (Figure 2.2),

Figure 2.3 Work setup in a coworking space

whereas, in a co-working space, we took the picture (actually by standing on a chair behind the person) of a more elaborate setup (Figure 2.3). The elaborate setups with additional gear – external keyboard, mouse, laptop standard, iPad as a second screen, and headphones – were more often present in places that enabled the workers to stay for at least a couple of hours, such as co-working spaces or in the worker's housing. Simpler setups more common during days of higher mobility (travel days or changing between places or locations).

The physical features of places that the nomadic workers perceived as enabling to create their temporary work environment concerned necessary facilities, such as tables, chairs, power outlets, and, Wi-Fi. While there was more leeway regarding the other physical features, Wi-Fi was crucial because it enabled access to files (saved in the cloud), communication with clients or collaborators (Skype or Google Hangout), and travel planning (finding a workplace, booking a flight or housing). If a place did not have these facilities, this could steer our respondents away as

they would not be able to conduct their work: *"There wasn't a proper internet connection, so I had to rethink the whole day and where to work."* (Vanessa, event planner, #9)

We noticed during the interviews and our observations that the physical environments revealed similarities across the world (described in the section on workplaces). One chain of co-working spaces was even explicitly mentioned by two of our respondents because they had the exact same interior and functional places across their locations worldwide. Being able to recognize types of places created familiarity with the specific place. Moreover, familiarity, in turn, enables workers to set up more quickly and start working, as Matt summarized:

> *"You get more comfortable and know how stuff works. You don't have to worry about those things anymore [...] but if it's unknown that takes some of your mental space." (Matt, AB tester, #8)*

Besides the physical features, there were also social elements within the places that afforded the nomadic workers to create temporary work environments: functional dedication, the presence of others, and norms in the place. Most importantly, the norms in a place influenced whether the nomadic workers felt legitimate to set up their temporary work environments in a place. The norms could be derived from the function of the place (e.g., a café) and the associated behavioral scripts:

> *"Restaurant-style places where you can't sit, you have to buy food and eat it and leave […] You don't want to have a waitress asking you every five minutes if you want something else. Like, come on, leave me alone." (Jacky, web designer, #4)*

> *"I prefer cafés because if you go to a restaurant, it can usually be a little louder, and they don't really like you sitting there for hours at a time. Cafés are a little more tolerant, so I would say co-working spaces first and then cafés." (Nero, workation organizer, #12)*

As the quotes illustrate, the function and associated behavioral

norms of the place could conflict with the workers' intention of using the place. Usually, the course of events in a restaurant is where one orders food and, or, drinks and leaves once these have been consumed. However, this is not suitable for working as it is experienced as disturbing to be asked to order (Jacky's quote above). So, even though a place – like a restaurant – provides tables and chairs that may enable workers to enact the affordance of *malleability* described earlier, the purpose of a place can constrain workers socially. When this happened, we found that nomadic workers did not necessarily leave but instead seemed to endure the experienced conflict for the time being and avoid in the future. In addition, as our research progressed, we had two respondents sharing with us that cafés prohibited working by hanging up signs and asking people not to work in the place. While this was constraining for the nomadic workers in their choice of place, it also cleared up any uncertainty about the places' norms. Matt explains why it is crucial to consider a places' normative aspect:

> *"You need to feel like you are allowed to work there. Sometimes, it doesn't feel right to just sit there with your computer, and I don't really feel comfortable sitting there. So, if there are more people working there, that helps." (Matt, AB tester, #8)*

As we showed above, nomadic workers continuously change places and have to create temporary work environments wherever they are by enacting the affordance of malleability through the physical and social elements of a place. However, nomadic workers do not only need to construct temporary work environments in a variety of places, but they also need to conduct focused work, as we turn to next.

Privacy. Conducting focused work was an especially challenging situation for the nomadic workers because it required a certain amount of control over their environment. For example, Kenni described it as such, "*Thinking work requires focus; you almost need a cocoon not to be distracted*." (product manager, #18). If workers were unable to control the distractions in their workplace, they could not conduct what was described

as 'focused work'. It comprised various tasks that required concentration, such as writing proposals for clients, writing blog posts, or brainstorming. In contrast, other tasks were less prone to suffer from a loss of focus, such as travel planning or answering emails. The distractions that could cause a loss of focus differed between the places, but café settings were most prone to distractions, such a general volume increase around mealtimes:

> *"What I can't deal well with is when people make all these smacking noises around lunchtime. I'm at work, and if I don't have my headphones with me, then it really distracts me a lot." (Jocelyn, travel blogger, #25)*

In order to conduct focused work anywhere, nomadic workers enacted the affordance of *privacy*, which is the ability to control incoming distractions. Distractions could be visual, such as other people walking by and notifications on devices, or auditory, such as conversations around them. When choosing where to work, the nomadic workers considered how the places afforded focused work through their physical features and social aspects. Jacky described how she created a focused work environment:

> *"I probably look for a table where I don't have too many people around me, set up my laptop, probably plug it in, make sure the internet works, plug in my headphones and turn on some music, so nobody talks to me…I like to turn notifications and emails and all these programs and Skype; I turn all that off and just focus on the things that are right in front of me." (Jacky, web designer, #4)*

The quote illustrates the two physical features that enabled workers to control the incoming distractions to their temporary work environment: distance to others and barriers. The first is also something that we observed when we visited this specific co-working space. For example, in an Amsterdam co-working space, nomadic workers made use of the possibility to use flexible tables (Figure 2.4) and move them as far away from each other as possible to create more distance to the other workers. In café settings, distance to others took the form of sitting in corners or merely

Figure 2.4 Flexible tables in a coworking space

putting empty tables between the worker and other visitors. Furthermore, we observed that nomadic workers created physical barriers, for example by even using items around them as we observed in a co-working space (Figure 2.5):

> *"[Co-working space owners] came up with a table divider called 'the post office' … to create more privacy so that people feel more comfortable to work next to each other. […] most of the people here are very focused on working. […] People tend to stay in their spot, and there is little interaction between them. Very focused work, and I am actually not even sure whether I can talk in a normal volume."*
> *(Mar 13, 2017, fn#9)*

Another way of creating barriers that we observed was the use of headphones. This was especially common in cafés and other places with naturally much noise present. In these places, headphones were a means

Figure 2.5 Table dividers in a coworking space

to be in control over what sound was present in the nomads' situated, focused work environment. This was further supported by the noise-canceling feature that some types of headphones have. Zane explained:

> *"Sometimes I'll use them [headphones] just when I want to listen to music and get really deep into writing and that could be in a café, or it could be in a co-working space, or it could even be in the apartment. It's just a great way to take you out of your environment."*
> *(Zane, writer and strategy consultant, #11)*

What Jacky's and Zane's quotes show is that a focused work environment is not the same as a quiet workplace. Both listened to music when using headphones, which was described as 'setting up a constant' in the background to drown out any background noise. For a quarter of our informants, the focused work environment did not only concern the physical surroundings but extended towards their digital environment, where

Figure 2.6 Dedicated focus area in a coworking space

workers also aimed to control digital distractions.

The affordance of *privacy* also had a social component in the places. For one, some co-working spaces had 'Focus booths' or 'Silence rooms' (Figure 2.6). In these areas, it was explicitly forbidden to speak with each other. In contrast to *malleability*, the behavioral norms in the place did not afford the workers to order the place for anything else but focused work. Furthermore, headphones were a means to communicate with others in the place that one did not want to be interrupted. They were not only used to create physical barriers to others but also interpreted as a social one:

> *"I don't really want to disturb them [other workers], with headphones and when they work on their laptops […] It is kind of like an unwritten rule and people just use it, and then you know that this guy is in the zone and you shouldn't bother him." (Tim, digital marketeer, #10)*

Through these various ways of interacting with the physical and

social aspects of a place, nomads silence their environment to conduct focused work. Next, we turn to a challenge that around the social environment of nomadic workers.

Instant sociality. In the hypermobile setting of nomadic workers, places and people change continuously. This resulted in the lack of a recurring social environment, both personally and professionally, thus making it challenging for the nomadic workers to embed socially. On a personal level, all nomadic workers experienced loneliness to some extent: *"Sometimes, you can just meet ten new people, and then you realize, or you go to your Airbnb, and then you realize, I'm still alone*." (Lisa, Design thinking facilitator, #5). This feeling of loneliness was reinforced when the nomads' significant others from more traditional ways of living misunderstood digital nomadism as a perpetual holiday. This common misunderstanding created the perceived need for nomadic workers to justify why they lived this way. Zane explained how this affected his relationships:

> *"They [friends with traditional life] don't understand it and perhaps might be a bit jealous, it makes it more difficult to stay in touch and have a good relationship." (Zane, strategy consultant, #11)*

On a professional level, being an entrepreneur or freelancer in combination with a high degree of mobility had the effect that the nomadic workers lacked a fixed professional environment, such as colleagues, with whom they could have feedback moments, share knowledge and engage in situated learning. When nomadic workers are not able to embed socially on both levels, they risk feeling lonely (personal) and lack the means to develop professionally. Feli said:

> *"Especially entrepreneurs struggle with because we don't necessarily have those feedback loops or touchpoints with a boss who gives us a feedback review at the end of the months or something." (Feli, startup coach, #2)*

In order to embed socially, nomadic workers enact the affordance

of *instant sociality,* or developing connections with like-minded others. We found that the connections served two purposes, namely counting the feeling of loneliness (short, local) and establishing work relationships (global, durable). While these seem like two distinct intentions, a relationship could develop from one into the other.

There was one particular physical feature that afforded the nomadic workers to develop connections with others: proximity to others**.** By coming to places where other workers were, nomadic workers were able to embed themselves socially. Zane explains how being geographically close supported him in his efforts:

> *"I think it's just co-working spaces have lots of freelancers […] and being surrounded with those sort of people, and having small engagements perhaps when you grab a coffee or when you're going to the bathroom, you might meet somebody along the way and have a moment of conversation." (Zane, strategy consultant, #12).*

> *"You have a lot of good friends in one space [place], and then you go to the next one [location], and then you have to try to reintegrate or 're-find' friends." (Kylie, business manager, #16).*

Both quotes illustrate how *instant sociality* is situated in place, the 'where' of work, as proximity enables connections between people. The nomadic workers use various digital tools to facilitate making connections in geographical locations. For example, the following quote comes from the interview with Vanessa, a remote event planner, and she responded to the question of how she meets people when she arrives in a new location:

> *"[On Instagram], you let people know where you're going [by sharing your location], and people are like, 'I would love to meet you'. In Warsaw last year, it worked like that. [It] starts through Instagram, and then you connect through Facebook, and then you meet, and then this person is introducing you to somebody else, and that somebody else is introducing you to five more people." (event planner, #9).*

Figure 2.7 Nomadlist.com platform

Other examples of digital platforms that enabled our respondents to connect based on the location were the platform meet-up.com - where a broad range of get-togethers and events are indexed based on, amongst others, location – or nomadlist.com – a specialized nomad website that indexes locations based on a wide variety of characteristics. Figure 2.7 shows a platform where – when selecting a particular city – users can see who is currently present in a city, who will be in a city, and who has been in a city. Also, an integral part of the website was an active forum as well as an active Slack channel, where people had lively discussions. In this community, our respondents were consuming (reading, watching, and listening) the experiences of 'distant others' to provide some initial guidance by following blogs and, more importantly, joining virtual communities. The knowledge shared on one of the forums was of strategic value for the workers, and the trust within the community - to safely share such knowledge - seemed to be partially due to the fact that members do not share anything outside of the forum. As participant observers in the Slack channel, we saw people posing questions concerning practical issues

Table 2.6 Affordances in nomadic workplaces

Affordance and definition	Physical and social aspects	Supporting digital aspects
Malleability Definition: *ability to shape places temporarily for work*	***Physical*** • chairs and tables • wi-fi connection • power outlets ***Social*** • functional dedication • behavioral norms in a place • physical presence of other people working	***Digital*** • cloud storage • google maps • virtual communication software (e.g., video calls, instant messaging) • online project management software • connectivity of devices • portability of devices • websites/apps where places to work are indexed (e.g., cafés, libraries) and can be filtered according to their characteristics • laptop and tablets, often with external keyboard and mouse
Privacy Definition: *ability to control incoming distractions*	***Physical*** • distance to other people or lack of people • items to create barriers towards other workers (e.g., headphones, plants, lamps, table dividers) • headphones ***Social*** • rules to be quiet in certain areas/places • headphones as indicator 'do not disturb'	***Digital*** • noise-cancelling feature • disabling notifications on digital devices • music on headphones
Instant sociality Definition: *ability to temporarily become socially embedded*	***Physical*** • proximity to others ***Social*** • like-mindedness • similarity of experiences • context collapse • familiarity over time • community hosts	***Digital*** • location-sharing feature on social media • accessibility of online professional communities • digital profiles on social media and specialized websites

Table 2.7 Illustrative data: Affordances in workplaces

Affordance	Illustrative data
Malleability	***Physical aspects***
	"It's the laptop. Take out your laptop case. You have to get the charger, get the adapter. Find a power outlet because who knows where those are going to be depending on where you are, and then if you are in a confined space, you are not really going to want to take out all that and be comfortable with all of your stuff all over the place, so it's nice that coffee shops you have a big table to spread stuff out […] I can plug in my adapter, and I won't get all tangled. I can just be at ease." (Nero, workation organizer, #12)
	They're all [different locations of co-working space] the similar design. They can be anywhere in the world and it can kind of be where am I, I feel like I'm in the same building […] I usually stay with the similar hotel chains so the environment is quite similar in all the different hotels around the world. I guess it's that home feeling." (Zane, writer and strategy consultant, #11)
	"You can just open your laptop whenever you want to and say: Okay, now I'm going to work. You can also just close it and say: […] it's time to be off work and do something fun because I'm in this awesome location." (Edith, blogger, #41)
	Social aspects
	"It [the place] has to have good internet. I need to feel welcome to work there; I don't want to be frowned upon like 'what's that guy sitting here for five hours and now he ordered one coffee'. My ratio is one coffee per two hours, that's reasonable." (Taylor, social media marketeer, #6)
	Digital tools
	"In terms of tools we both use Slack. It's a communication tool for groups. And then I mean Google Drive, of course. And Trello, for team productivity tools. Something we came to appreciate is also WhatsApp, even for business purposes. To record voice messages." (Feli, startup coach, #2)
	"There's apps out there that map out good coffee shops to work from. One is Work Hard Anywhere […] I would look for the ratings of different coffee shops. They rate how strong is the Wi-Fi. […] Simple things like do they have power plugs? Is there enough seating? Is there food? Is there coffee? […] You want to find a place where you don't have to get up every four hours and go eat somewhere else and get coffee." (Nero, workation organizer, #12)

Affordance	Illustrative data
Malleability (continued)	"I use it [social media], but not that much. I also have to use it more often. But for me sometimes the slow internet was a problem, which really was frustrating and one of the challenges in those undeveloped countries where I travel The internet can be so shit. And then I sometimes tried to upload something on YouTube and it was just impossible. Two days later, still nothing would be uploaded. And I was like okay, let's just forget about it." (Sanne, online retailer, #14) "Bad Wi-Fi. I can pretty much make myself productive in a space [place], but if the Wi-Fi is bad, I'm being annoyed. I lost my temper over Wi-Fi." (Kai, blogger, #43)
Privacy	***Physical aspects*** "It depends on how serious the matter is. If I'm doing one-hour consulting and then that requires my full concentration, then I prefer to be in a really quiet place. I wouldn't go to a café. If I just need to update a client about, provide some feedback or something related to a project that's ongoing, then I will go in a café and that's fine. If I'm talking with my parents, it's also fine to talk. Also, my mother, but it would be fine to be in a café. It really depends." (Vanessa, remote event planner, #9). "I actually really like cafés where there are not that many people. And a lot of the big hotels have cafés where there are not many people, at least the better ones." (Ben, business consultant, #44).
Instant sociality	***Physical aspects*** "I noticed that in Bali especially, where it may be easy to get in a conversation with somebody just sitting next to you on the table and you start talking and within minutes you have a really deep conversation." (Jacky, web designer, #4) "The co-working space offers many events during the week that are promoted on the community board […] A little bit later, two other people start talking standing in front of one as one of them has been asked to give a 'talk', which is either a workshop or a talk for (and by) members of the co-working space. " (Sept 4, 2017, fn#13) ***Social aspects*** "I think in a café that's just not going to work, is it? Literally would be talking to strangers, which I have no problem with most of the time. But everyone in the café would be a stranger, whereas in a co-working space you're going to see the same faces every day, and those people you get to know fairly quickly." (Kenni, product manager, #18)

Affordance	Illustrative data
Instant sociality (continued)	"They're [relationships] very easy to rekindle or to reignite once you're back in the area. We live in such fast-paced times that most people don't stay in touch." (Sander, HR broker, #7)
	"I have a lot of friends, also from the digital nomad community. The nice thing is that they are also travelling and working. So, if you feel lonely, you can immediately Skype with them or WhatsApp with them and they understand exactly what you talk about." (Sanne, online retailer, #14)
	"What usually happens [in a mastermind] is that you give an update on what you have been doing the last week, so […] how you have grown your business. There is also the opportunity to ask feedback on certain projects […] They can chime in with their ideas and that can usually be helpful. For me the most valuable thing [is] the accountability that it gives me. So, it actually keeps growing, having to justify what I haven't done". (Matt, AB tester, #8)
	Digital tools
	"if I'm able to go somewhere, let's say from now to a month, I map all the people on Instagram who are in that location and I'm just writing a message and say, 'Hey, I'm coming. I would love to meet you for coffee. I would love to meet you for whatever." (Vanessa, event planner, #9)
	"I was tweeting about something […] and then he looked at what I was doing...you are in [the city] and you are right down the street. That's how we got in touch.". (Rachel, academic, #1)
	"People can look each other up on the [CWS] app. Each member can create a brief profile about what they do and how to contact them so that people can search for certain skills, which can be posted online or offline" (Aug 4, 2015, fn#3)
	When it does not work
	"You need a mastermind group which has a very similar kind of person; where people are in a similar kind of bracket otherwise the value isn't necessarily as high as it could be. And then having the commitment for everybody can be quite difficult because everyone is busy […] I don't think it's necessarily as easy when you're a nomad to have a mastermind group because time zones, changing around a lot and then cancelling appointments isn't so good, it is mastermind group. I've explored it but it's not been a viable option recently." (Zane, writer and strategy consultant, #11)

(functional support) but also the frustrations they encountered (emotional support). The continuous accessibility of online communities supported the maintenance of the relationships. Online communities supported the workers in staying connected.

Connecting with others was not only afforded by a shared physical location but also by social elements, such as being like-minded and sharing similar experiences as nomadic workers. Like-mindedness was a term that was commonly used to refer to the difference to people from more stationary or conventional lives. Especially the first experience of meeting like-minded others was a relief. Kenni explains: *"All have very similar experiences, so the people you meet along the way, you kind of share those with them, and they will understand."* (Kenni, product manager, #18).

Next to sharing interests, it is also helpful to share the intention of the fleeting nature of the local relationships. This connects to calling new acquaintances 'friends' very quickly (see also quote Kylie about 're-finding friends'). Specifically, that it was acceptable that the time spend together in the same location could be ended by either person when one of them moved on to the next location. Also, the nature of relationships was not determined upfront, and the physical places afforded the nomadic workers in doing so. Specifically, for digital nomads, the temporary nature of work environments also implied that a place for work could become a place for leisure. Or rather, that this distinction was irrelevant because the digital nomads enabled intertwining these contexts in their work-life practices. Jacky said: *"It's interesting because a lot of my clients are either friends or they become friends. I don't separate it."*.

On a global level, we also found that so-called 'digital nomad hubs' are developing, such as Tarifa (Spain) or Ubud (Bali, Indonesia). By 'hubs', we refer to geographical locations around which more members of the digital nomad community clustered, and the infrastructure was targeted at the needs of digital nomads.

Table 2.8 Workplaces and their nomadic affordances

Place	Affordances Malleability
Co-working space	*Often* • physical: all amenities present (incl. power outlets). Different areas enable switching within one location. • social: behavioral norms are explicit and are congruent with the nomadic worker's intention to set up temporary places. The place is dedicated to work and the other people present are also workers.
Cafés	*Often* • physical: basic amenities present. However, they are often less efficient in their use for work (e.g., not enough electrical plugs, smaller tables). • social: behavioral norms are explicit, and it varies how flexible these are towards the nomadic worker's intention to set up temporary places. Places are not dedicated to work. High variety in type of people present.
Housing	*Often* • physical: basic amenities present. Proximity of workplace to living location. • social: worker can determine how the place should be used (norms and dedication). Seldom other people present (e.g., a partner).

	Privacy	**Instant sociality**
	Sometimes • physical: zoned area for focused work. However, other zones are collaborative. • social: explicit rules in focus area to enforce quietness. Norms in collaborative area conflict with worker's intention. Implicit understanding of meaning of headphones.	*Often* • physical: sharing a place with other workers. • social: people present are like-minded, have similar experiences (as nomadic workers), and may become familiar with each other over time.
	Rare • physical: variety and volume of noises can be distracting. Other people present and can be crowded. • social: norms in the place (targeted at social interaction) conflict with worker's intentions. Headphones as sign of 'do not disturb' may be overruled by requests to order and or by other people.	*Sometimes* • physical: other people are usually present. • social: people differ widely in their experiences and intentions of being in this place (work, leisure). Familiarity is less likely.
	Often • physical: generally, no other people present. • social: worker can determine if and how interruptions occur. Norms are determined by worker.	*Rare* • physical and social: seldom other people in proximity.

2.4.3 Affordances across places

The three affordances are enabled and constrained to differing extents by the physical and social aspects of the three places (co-working spaces, cafés, housing). When workers aim to create their temporary work environments, the degree to which an affordance could be perceived in a place was a crucial consideration. We compared the places based on how often our respondents described that the places enabled each of the three affordances (Table 2.7).

Regarding malleability, both co-working spaces and housing were often perceived to enable the affordance, whereas cafés do so only sometimes. All three places share that they have basic physical amenities (table, chairs, Wi-Fi) that enable nomadic workers to create temporary work environments, but co-working spaces tend to be most comprehensive. This stems from the fact that co-working spaces are targeted explicitly at flexible workers by having different areas (focus and social) and providing enough power outlets. The differences are more pronounced regarding the behavioral norms present in each place. Co-working spaces were perceived as designated for working and setting up temporary work environments. Hence workers felt legitimate place to work there. Moreover, while housing was not necessarily dedicated to working, the nomadic workers had control over the use of the place. This enabled ordering the place for nomadic work. Cafés were most open to interpretation regarding their functional dedication as they enable different types of uses. Most commonly, people sit there together to socialize and have a drink or a bite. However, the spatial features also allowed for another interpretation, namely of the café functioning as a workplace. Over the course of our data collection, we noticed that the latter became increasingly common, especially in urban areas. One indication of the legitimacy to work in a specific café was the presence of other workers.

Turning to privacy, housing typically was most described to enable the workers to control incoming distractions, then co-working spaces and cafés the least. In housing, the lack of other people enabled workers to

determine the use of the place for any given time, who was in the place and thereby also define the boundaries of the workplace. In contrast, the existing norms in cafés are likely to conflict with the workers' intention, as we described earlier in the example of being interrupted to order food. In some extreme instances, this clash with became so pronounced that the café owners banned working from the locations. Also, for workers, the noises and general volume of chatter can be distracting.

In co-working spaces, workers could choose from different areas, such as focus and collaborative areas. However, we noticed during our field observations that even the collaborative areas were used for focused work, and our informants tended to name 'other people asking questions' as a distraction. Headphones were often worn in both areas for the purpose of signaling one's focused workplace and the wish not to be disturbed to others as well as for listening to music, which drowned out any noises from the outside. Overall, the worker's ability to control incoming distractions in co-working spaces is most enabled in the dedicated focus areas.

Lastly, instant sociality was often described in co-working spaces, sometimes in cafés, and never in housing. In co-working spaces, people's proximity to each other, as well as the people's similar motivations of coming to these paces, enabled workers to easily embed themselves socially, both on a personal and a professional level. For example, so-called 'community boards' – a physical board where people could put up notes (Figure 2.8) – afforded to connect with others based on sharing the same interests. While there are also people in cafés present, the motivations of coming to a café vary more widely across the guests, and they are as less likely to align with the nomadic worker's intentions as they are to conflict with them. Furthermore, housing lacks opportunities to interact with others.

2.5 Discussion

We began our study by pointing out that we know little about how digital nomads organize for work (with the exception of Jarrahi et al., 2019),

what role the physical place plays in their organizing. To answer this question, we took an affordance lens and explored the question: *What are the affordances of nomadic work?* Interviews with digital nomads across different professions and field observations in their workplaces across countries revealed three affordances of nomadic work (malleability, privacy, and instant sociality). Through enacting these three affordances, the nomadic workers to cope with the challenges arising from continuous travel in nomadic work (working across places, conducting focused work and embedding socially). Furthermore, we learned from comparing typical places in nomadic work based on the affordances that the we need to treat the concept of workplace more comprehensively. Our findings have implications, as we will discuss next.

2.5.1 Theoretical contributions

Our contribution is threefold. Our first contribution is to the literature on digital nomads (Jarrahi et al., 2019; Müller, 2016; Reichenberger, 2017; Sutherland & Jarrahi, 2017) by studying how digital nomads interact with their environment to create temporary workplaces. To our knowledge, we are the first to offer a detailed account of how these digital workers enact the affordances of nomadic work. That is, we identified the three affordances of malleability, privacy, and instant sociality. Research on digital nomads is still nascent and has only, so far, defined digital nomadism (Reichenberger, 2017) and detailed the nomads' digital practices (Jarrahi et al., 2019), such as knowledge management (Jarrahi et al., 2019), branding, or contracting (Sutherland & Jarrahi, 2017). We extend this work by turning the researcher's attention toward the role of the physical environment in line with the 'spatial turn' in organization studies (de Vaujany & Mitev, 2013; Van Marrewijk & Yanow, 2017; Weinfurtner & Seidl, 2019). We also build on Fayard and Weeks (2006), who found in their study on informal interaction in office places that social aspects in an environment afford and constrain the workers' actions. Indeed, we also found that it is the combination of physical and social aspects in the places that produce the affordances and enable digital nomads to create temporary workplaces,

embed socially, and conduct focused work. In contrast to Fayard and Weeks' study on a designated workplace, we extend the findings to non-designated workplaces as well. In doing so, we go beyond stating that digital nomads work anywhere and anytime, instead demonstrate how they achieve this in a variety of locations. We focused on the interaction of physical and social aspects and viewed digital technology as an enabler. Thus, future studies should consider the role of digital technology more actively. For example, how the physical locations and the digital platforms to locate other workers relate to each other.

Second, we build on and extend research on contemporary workplaces. We do so by comparing typical places found in nomadic work: co-working spaces, cafés, and housing. Previous research has addressed various workplaces separately, for example, co-working spaces workplaces (Gerdenitsch et al., 2016; Spinuzzi, 2012) and third workplaces (Di Marino & Lapintie, 2015; Kingma, 2016). By discussing to what extent affordances of nomadic work were perceived to be present in each place, we were able to see similarities and differences between the places beyond their physical characteristics. Reflecting on this, we find that the term workplace needs to use more comprehensively. Specifically, we suggest that what constitutes a workplace is less about what the place *is intended for* but rather how the place is *perceived to be used*. As digital technologies enable continuously higher degree of flexibility and mobility (e.g., Aguinis & Lawal, 2013; Ashford et al., 2007; Colbert et al., 2016), the places of work will become even less clearly defined. This not to say that dedicated places such as corporate offices are not workplaces, but instead that other, non-dedicated, places can also become (temporary) workplaces. Future research could take a broader selection of places and study their potential to be enacted as workplaces. Another avenue of future research may be to investigate more in-depth how the workers' perception of a place matches or clashes with the existing norms in the place, and how they deal with such tensions in their interaction with the environment.

Moreover**,** our research further highlights a paradox: Unlike the terms 'working anywhere' or 'location-independently' seem to suggest,

'place' is the first concern of digital nomads. Thus, place moves from the background to the foreground of organizing. Similarly, Liegl (2014) found that the "guiding question … seems to be, "Where can I work best?" … what seems to be a rhythmic interaction of workers with their work environment, where this environment might enable work … for a certain period of time, and then it is time to move on." (p. 178). We showed how nomadic workers need to answer the question of 'where' on a continuous basis. This suggests that when studying knowledge workers without a designated place, we need not only consider the digital space where digital nomads dwell but also their physical place. As the affordance of instant sociality attests to that places play an influential role in relationships. While work has emphasized the increasing importance of relationships for work (Heaphy et al., 2018; Khazanchi et al., 2018), we know much less about workplace implications for relationships (Khazanchi et al., 2018; Rockmann & Pratt, 2015). A next could be to investigate how the places shape relationships as today's workplaces become more interdependent (Barley & Kunda, 2001; Grant & Parker, 2009).

Lastly, we also add to the discussion of how the connectedness of temporary workplaces blur the spatial boundary between work and leisure (Cousins & Robey, 2015; Prasopoulou et al., 2017). It seems that for digital nomads, the distinction between work and life is irrelevant in their physical and social environment. Specifically, the spatial boundary between work and life is blurring as workers change between enacting privacy and instant sociality in the same place. More so, the digital nomads enabled intertwining these contexts in their digital and physical environments. Thereby, digital nomads find themselves in 'interspaces' – places that are not clearly part of either place (Burrell & Dale, 2008). Similar developments have been observed for social media users in organizations (Leonardi & Vaast, 2017). We suggest that what we observed is akin to 'context collapse' in social media research, which refers "to how people, information, and norms from one context seep into the bounds of another" (Davis & Jurgenson, 2014, p. 477). Context collapse came about because social media platforms afford to address multiple audiences - people belonging

to a context - at the same time (Marwick & boyd, 2011), hence collapsing the contexts. These collapses can be unintentional, which are called "collisions" (Davis & Jurgenson, 2014, p. 481) and are often seen as problematic with chaotic consequences (Davis & Jurgenson, 2014). There are also intentional context collapses, "collusions" (Davis & Jurgenson, 2014, p. 480), which have more positive consequences such as knowledge sharing. The ambiguity of norms in a place can also give rise to uncertainty (Van Gennep, 1960) and creativity (Sturdy et al., 2006). A departure point for a follow-up study could be to focus on the digital nomads' boundary work by observing how they separate and, or, blur the contexts in their spatial environment and what the implications are for their work.

2.5.2 Limitations and future research directions

The current study is subject to several limitations that, it should be noted, are also opportunities for future research. While we conducted a good number of interviews, the data is cross-sectional and provides only current and retrospective data about how digital nomads create their work environment. Such verbally recollected data has been found to be vulnerable to the recall effect (Golden, 1992). To counteract this and improve recall, we asked about *what* happened in a particular instance, *where* they were and *what* tools they used. We believe that by asking the respondents for such an amount of detail (e.g., the location and people involved), they were only able to recall these events if they had taken place. Furthermore, we complemented the interviews by conducting observations in the field to provide a thicker description of the nomads' interaction with their environment (Flick et al., 2004). One possible avenue for future research would be an ethnographic longitudinal design using digital methods, which is ideal for investigating how the nomadic workers learn to enactment affordances and how they change over time.

Second, our sample was restricted regarding age group as we were not able to find respondents older than 40 (with one exception). This creates a boundary condition (rather than a limitation) for the theoretical

findings regarding the affordances of work. People in their 40s and older are often in a different life situation than those in their 20s, for example, having responsibility for a family or financial obligation (e.g., a loan). This may lead to a reduced inclination to start working and traveling. It is also conceivable that this stems from a difference in digital fluency (Briggs & Makice, 2011), or virtual intelligence (Makarius & Larson, 2017), which tend to be higher among digital natives rather than digital immigrants. While we aimed to counteract an age selection bias using online and offline sampling methods, future research should account for this.

Third, we viewed digital technology as an enabler in our investigation of the affordances of nomadic work. While this was adequate for our purpose, it may have underemphasized the role of digital technology for nomadic work. Digital nomads' way of working depends on digital technology (Müller, 2016; Reichenberger, 2017), just as digital technology is permeating social life _. Therefore, future studies should consider how the physical and digital spaces interact, for example, by investigating how the community of users of nomad platforms (to locate other workers) relate to the workplaces. These platforms for nomads are to a certain extent similar to the TripAdvisor platform for tourists, which has been found to have a big impact on the business in the hospitality sector (Scott & Orlikowski, 2012).

Lastly, the professions that were included in the study varied widely among participants. Therefore, we could not account for the particular nature of jobs (Barley et al., 2017; Boell et al., 2016). For example, there may be differences between a coach whose core business are confidential conversations and a graphic designer who works mostly individually. Since the worker's intention are an important element in the enactment of affordances, I can imagine that workers with different types of jobs 'see' different affordances. Particularly, the intention acts as a filter to seeing in the place what can be potentially enabling and constraining features. Nevertheless, we carefully selected our participants so that they were all knowledge workers and using digital technology to work irrespective of changing locations. Future studies should further investigate the nature of

work by taking into account the complexity and diversity of work tasks, which were identified in the related context of telework (Boell et al., 2016). Thereby, I reason that they may be able to further distinguish variations of the affordances of nomadic work.

2.5.3 Managerial implications

Digital knowledge workers and their managers can derive value from our findings as well. It is important to realize that while nomadic work offers opportunities for flexibility and mobility, it also creates additional organizing work. This is because many of the structures that are traditionally in the background by default, need to be recreated in each new place and move to the foreground of the worker's organizing. To facilitate nomadic work, workers need to identify these structures and how to manage them in order to ensure continuity of work. There are three main structures that do not exist by default in nomadic work. For one, as most digital knowledge workers depend on an internet connection for of their work, a worker needs to ensure connectivity in a variety of locations under often uncertain conditions. Second, most jobs require at least some focused work, however, not all places accommodate this type of work. For example, some environments may be too noisy or crowded. Third, and last, self-employed workers are likely to experience that their mobility may hinder them to socialize adequately for professional purposes. Employees tend to be less prone to this because they can exchange and collaborate with others from the same organization.

Based on our research, we offer three key learnings to ensure continuity of working in nomadic work. First, our research shows that there are different types of places where highly mobile workers may conduct their work. It is advisable to become familiar with the different types of locations beyond working in an office and what each of them afford. Second, it is important to become proficient in doing research about the conditions of a specific location. Besides the location's own websites, there are websites and tools that allow workers to check the conditions remotely (e.g., the app

Work Hard Anywhere). Lastly, even the best preparation cannot cover all eventualities or changes in conditions, such as a place being fully booked or an event taking place. Knowledge about workarounds is can best be facilitated by the online community of nomadic workers as they recognize the challenges (e.g., nomadlist.com or DNX). Engaging with the online community will also facilitate making local connections to socialize with.

2.5.4 Conclusion

In conclusion, the current study provides insights into what the phenomenon 'digital nomads' entails. We presented three affordances of nomadic work that nomadic workers enact in order to create temporary workplaces where they can embed socially or conduct focused work; compared typical work locations with each other based on the prevalence of affordances to highlight their subjective differences. We discussed the findings in light of the current literature on contemporary work and provided several opportunities for future research. In doing so, this study provides the groundwork for theorizing work and workplaces as it becomes increasingly mobile and remote (Barley et al., 2017; Colbert et al., 2016; Orlikowski, 2016).

Acknowledgements

We would like to thank Amanda Porter, Marlous Agterberg and Maura Soekijad for their feedback regarding earlier versions of this paper. We are thankful for the time that our interviewees have devoted to sharing their experiences with us. Also, we gratefully acknowledge that this work is part of the research program New Ways of Working and Human Capital Development with number 409-13-212, which is (partly) financed by the Netherlands Organization for Scientific Research (NWO). Finally, we would like to thank reviewers at EGOS 2017 and AOM 2018 for their feedback, especially Ingrid Erickson.

3 RECONFIGURING WORKPLACES

EXPLORING THE RELATIONAL IMPLICATIONS OF AN OFFICE CLOSURE

"It just touched everyone in their core: I've lost my spot, I've lost my office, I don't see my colleagues anymore."

- Employee at TechSub (2019)

Summary

What happens to an employee's workplace configuration and work relationships when the corporate office is closed? This paper examines how a workplace configuration – an individual worker's arrangement of workplaces in a particular combination – shapes their work relationships, and particularly how employees cope with a radical change to their workplace configuration. We investigate this through a qualitative study at a global technology company which decided to close its corporate office temporarily while continuing business as usual. We found that when employees changed from a co-located to a distributed setting, their closest relationships intensified, whereas their more removed relationships diluted. However, through interviews and video data, we found that they cope with the loss of the office by reconfiguring around new physical and digital centers. These findings demonstrate that when studying the impact of places on relational outcomes, it is essential to take a broader perspective beyond a single location and account for the difference in relationship layers.

I wrote this paper together with Evgenia I. Lysova, Svetlana N. Khapova, and Marleen Huysman. This paper was accepted for presentation at IHRM in 2020 (Paris, France).

3.1 Introduction

Workplaces have long been crucial to the way we work (Davis, 1984; Elsbach & Pratt, 2007). However, work is expanding beyond the boundaries of a single location towards configurations of multiple locations, and the rise of distributed settings has challenged the role of single, co-located offices for some time (Watson-Manheim et al., 2002). Digital technology enables workers to be remote from their colleagues, thereby increasing their level of autonomy and flexibility (Baruch, 2001; Gajendran & Harrison, 2007). More often than not, contemporary workers conduct work across multiple locations (Hislop & Axtell, 2009). For example, cafés and co-working spaces are part of the modern workers repertory of locations (Gandini, 2015; Kossek et al., 2015), who are sometimes even nomadic (Reichenberger, 2017). However, we still know very little about the implications of spatial settings for work relationships (Khazanchi et al., 2018; Rockmann & Pratt, 2015).

Despite these developments in where we work, the research on workplaces has focused on studying two primary areas: single locations, such as offices (e.g., Fayard & Weeks, 2006) or co-working spaces (Spinuzzi, 2012), and distributed settings (e.g., Hertel et al., 2005; Hinds & Kiesler, 2002). We argue that the contemporary worker is not confined to either setting and instead has a repertory of locations at hand that spans co-location and distributed work. With the proliferation of alternative locations and companies encouraging their employees to work there (Fullerton, 2013), current perspectives are not always reflective of how modern work is organized. Therefore, we propose to study workplaces not solely individually or distributed but rather from the standpoint of overarching *workplace configurations*, which refer to an individual worker's arrangement of workplaces in a particular combination. For example, a workplace configuration may consist of a location at home and a corporate office.

Recent work has emphasized the increasing importance of relationships for work (Heaphy et al., 2018; Khazanchi et al., 2018) as today's work becomes more interdependent (Barley & Kunda, 2001; Grant &

Parker, 2009). Moreover, while we know a great deal about how co-located and distributed work impact employee behaviors, we know much less about the workplace implications for relational outcomes (Khazanchi et al., 2018; Rockmann & Pratt, 2015). Given that one can best observe a phenomenon of interest under conditions of change, we ask: *How do workplace configurations shape work relationships, and how do employees cope with changes to their workplace configurations?*

To answer these questions, we investigated a European subsidiary of a global technology company that made the radical decision to close their corporate office temporarily while continuing 'business as usual'[2]. We collected interview data as well as videos and documents from the time of the closure. We carefully examined how the closure (the loss of the central office from their workplace configuration) affected work relationships.

We contribute threefold to the literature on contemporary workplaces and work relationships. First, our findings extend the research in the area of work relationships by introducing the notion of relationship layers and providing empirical insights into how workplace configurations shape these different layers (Heaphy et al., 2018; Khazanchi et al., 2018). Second, we broaden our current understanding of contemporary workplaces (e.g., Bernstein & Turban, 2018; Gandini, 2015; Hislop & Axtell, 2009; Kossek et al., 2015) as we introduce the concept of workplace configurations, their dimensions and show how different contemporary work settings relate to each other. Third, and last, we contribute to the literature on the link between place and relationships (Heaphy et al., 2018; Khazanchi et al., 2018). We detail how workers cope with a change in their workplace configuration by reconfiguring around new physical and digital centers to maintain and create work relationships.

In the remainder of the paper, we first provide a brief review of

[2] The similarity with the situation during the COVID-19 pandemic in 2020 is coincidental because the decision at TechSub was already made in 2017.

extant research on how place influences work relationships before introducing the concept of workplace configurations as an alternative perspective for studying modern workplaces. We then provide details regarding our data collection and analysis. Following this, we set the stage by describing the empirical setting of the office transformation. Then, we turn to our findings to introduce the dimensions of workplace configurations and the notion of relationship layers. Also, we show how change in the dimensions shaped coworker relationships. Furthermore, we detail how the employees coped with the changed workplace configurations by reconfiguring and identify limits to these coping efforts. Finally, we discuss and situate our findings in existing work.

3.2 Theoretical background

Halford noted, "*where* work is done makes a difference […] to organisational and personal relationships" (2005, p. 20, emphasis in original). Although different streams have provided us with essential pieces to understand how place affects work relationships, previous studies focused on a single work location or the place between locations, respectively, rather than seeing each location as part of a broader repertory of workplaces (in other words, a workplace configuration). Hereafter, I will first briefly review what we know about how each setting affects relationships at work before turning to workplace configurations.

3.2.1 Work settings and relationships

As part of the 'spatial turn' in organization studies (Taylor & Spicer, 2007, p. 338), we identified two streams of research that have investigated the spatial aspects of work: co-located and distributed work. Together, these two streams reflect the contemporary worker's repertory of locations that enables working 'anywhere, anytime' (e.g., Chayka, 2018; Mazmanian et al., 2013). More recently, scholars have also started to address how places affect relationships at work (Heaphy et al., 2018; Khazanchi et al., 2018; Methot et al., 2017; Ragins & Button, 2007).

Relationships are crucial for work (Heaphy et al., 2018; Khazanchi et al., 2018) and scholars have called to bring them to the foreground of research (Khazanchi et al., 2018; Methot et al., 2017; Ragins & Button, 2007). Work relationships are conceptualized as two or more entities interacting in a patterned way over time in the work context (Ferris et al., 2009). Often, specific relationships are investigated, such as between leaders and members (Colbert et al., 2016; Ragins & Button, 2007). However, as work is becoming more interdependent (Barley & Kunda, 2001; Grant & Parker, 2009), also across departmental boundaries, the importance of peripheral relationships increases. There has been a call to differentiate in relationship quality (Khazanchi et al., 2018), such as between positive and negative ties. Especially positive ties – those that are perceived as mutually beneficial (Ragins & Button, 2007) – are connected to innovative work behaviors (Carmeli & Spreitzer, 2009), increased performance (e.g., Hochwarter et al., 2007) and reduced turnover rates (e.g., Krackhardt & Porter, 1985).

Co-located work and relationships. One stream of literature focused on co-located workers in single workplaces such as offices (e.g., Brennan et al., 2002; Fayard & Weeks, 2006; Irving et al., 2019; Oldham & Brass, 1979; Zalesny & Farace, 1987). The literature typically describes offices along one or more of four spatial dimensions, such as proximity, privacy, crowding, and workplace assignment (Khazanchi et al., 2018). These dimensions impact a wide range of individual and organizational outcomes, such as communication (Fayard & Weeks, 2006; Sailer & McCulloh, 2012), cognitive performance (Jahncke et al., 2011), or job satisfaction (Sundstrom et al., 1980). Regarding informal communication, Fayard and Weeks (2006) found that it is not only the spatial layout that plays a role but that there is also a social aspect in workplaces. For example, an employee also needs to perceive a location as socially designated for an activity, thus feeling comfortable to be there.

Studies in co-located office settings have identified several spatial dimensions that influence employee interaction and, in turn, work relationships (Khazanchi et al., 2018). Specifically, the spatial dimensions of privacy and proximity have an impact on coworker interaction (Bernstein &

Turban, 2018; Khazanchi et al., 2018; Sundstrom et al., 1994). Studies have found that increased privacy enables conversations where confidential and personal information can be safely shared (Carlopio & Gardner, 1992; Sundstrom, 1986), which facilitates positive relationships. Regarding proximity, researchers are divided whether it enables (e.g., Reagans, 2011) or hinders (e.g., Ayoko & Härtel, 2003; Kiesler & Cummings, 2002) relational efforts. Furthermore, co-located settings generally facilitate serendipitous encounters – which play a central role in relationship building at work – through mere proximity to each other, but employees have also been found to actively engage in strategies to avoid such chance encounters (Irving et al., 2019). In support, a recent study found that coworker's face-to-face interactions decreased by 70% (Bernstein & Turban, 2018) in an open office (high proximity, low privacy).

Distributed work and relationships. As described earlier, contemporary workers often conduct work across multiple locations and across distances (Hislop & Axtell, 2009). For example, working in co-working spaces (Spinuzzi, 2012) or coffee bars (Kossek et al., 2015) has become increasingly popular next to more traditional locations, such as the home (Bailey & Kurland, 2002), at the corporate office (Brennan et al., 2002) or at a client's office. This literature on virtual or distributed workers and deals with issues around distance and proximity (MacDuffie, 2007). While there are different types of distance – cultural, administrative/political, geographic, and economic (Ghemawat, 2001; MacDuffie, 2007) – geographic distance has received much attention (Wilson et al., 2008). Being remote from colleagues requires the workers to rely on digital technology to conduct their work (Leonardi et al., 2010; Rockmann & Pratt, 2015). Besides emails, other technologies for file storage (e.g., Dropbox), writing documents simultaneously (e.g., Google Drive), and networking (e.g., Yammer) enable workers to connect and collaborate with their colleagues despite the geographical distance (Leonardi et al., 2013; Oostervink et al., 2016). Typically, studies showed that remote work increases employees' autonomy and flexibility (Baruch, 2001) because they have more discretion over their location, time, and way of working

(Gajendran & Harrison, 2007). However, the available technology can also create expectations about needing to be constantly connected, which employees cope with by strategically using technology to increase the perceived distance (Leonardi et al., 2010). Also, being remote from colleagues often requires additional effort to signal commitment to the organization (Cristea & Leonardi, 2019), and it tends to take longer to socialize and develop shared identities (MacDuffie, 2007; Walther, 1992).

From studies on distributed settings, we have learned that the impact of distance on work relationships is often negative (Kiesler & Cummings, 2002; Vayre & Pignault, 2014). In turn, decreasing the geographical distance, for example, even temporarily through site visits, improves work relationships (Hinds & Cramton, 2014). Many studies focus on geographical proximity (e.g., Allen, 1977; Kiesler & Cummings, 2002) but Wilson et al. developed the concept of perceived proximity, which "reflects one person's perception of how close or how far another person is" (2008, p. 983). In a subsequent mixed methods study, their findings challenged the traditional notion that sharing an office is equal to close relationships – and consequently, that working distributed means to have weak relationships (O'Leary et al., 2014). Overall, distributed workers seem to experience more difficulty forming strong relationships because they lack unplanned encounters (Kiesler & Cummings, 2002) and personal disclosures (Kurland & Egan, 1999).

Research is scarce regarding settings where co-location and distributed work are studied at the same time. One noteworthy study by Rockmann and Pratt (2015) found that while individuals wanted to work in a shared office, the employees decided to work more remotely as their colleagues did so as well – thereby creating a 'lonely office'.

3.2.2 Introducing workplace configurations

Although extant research addresses some aspects of the place-relationship link, little is said about how working across multiple locations shapes work relationships. The extant literature often studied individuals

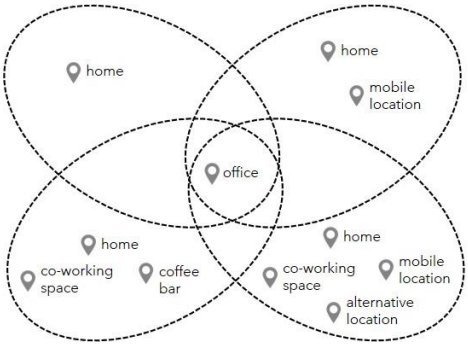
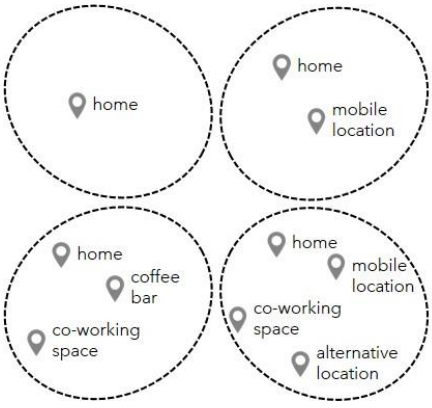
working in a single location, such as offices (e.g., Fayard & Weeks, 2006; Irving et al., 2019; Oldham & Brass, 1979) or co-working spaces (e.g., Garrett et al., 2014; Spinuzzi, 2012), or focused on the distance between locations, such as in distributed settings (e.g., Cristea & Leonardi, 2019; Hinds & Cramton, 2014; Leonardi et al., 2010). This is not always reflective of how modern work is organized because work often takes place in multiple locations that *together* make up the worker repertory. Therefore, we propose to study workplaces as *workplace configurations*. In other words, the elements that make up a workplace configuration are the locations, such as the home, the corporate office, or the co-working space. This means that the workplace configurations differ across workers and that their configurations can overlap (e.g., in a co-located office). Table 3.1 provides exemplary workplace configurations in the typical work settings of co-located work, distributed work, and a combination of both. The configurations differ in the number of included workplaces (size) and types of workplaces (variety) for individual employees (indicated by the dashed line around a configuration). Initial evidence pointing towards a configurational perspective comes from a particular stream in the social network analysis literature, which takes into account the influence of spatial configuration on social networks (Sailer & McCulloh, 2012; Wineman et al., 2009). Sailer and McCulloh (2012) found that configurations are a more accurate way of predicting whether or not people form ties in an office but they did not distinguish in the strength or quality of relationships.

Overall, research so far provides some understanding of the place-relationship link, yet it lacks to take into account the various locations in which workers conduct their daily work. By studying workplace configurations and their relational implications, we tackle this shortcoming and provide a perspective that reflects how digital work is organized.

3.3 Data and methodology

We aimed to extend our understanding of how workplaces shape work relationships, as current theory is incomplete (Khazanchi et al., 2018).

Table 3.1 Typical workplace configurations

Settings	Example sets of configurations	Configuration characteristics	Example articles
Co-located	 1 exemplary workplace configuration	***Size***: single location ***Variety***: little	Brennan et al., 2002; Fayard & Weeks, 2006; Irving et al., 2019; Oldham & Brass, 1979; Zalesny & Farace, 1987
Co-located with workplace flexibility	 4 exemplary workplace configurations	***Size***: at least two locations: office and an alternative location (e.g., co-working space, home) ***Variety***: little to high	Boell et al., 2016; Cristea & Leonardi, 2019; Rockmann & Pratt, 2015
Distributed	 4 exemplary workplace configurations	***Size***: varies from single to multiple workplaces ***Variety***: little to high	Cristea & Leonardi, 2019; Hinds & Cramton, 2014; Kiesler & Cummings, 2002; Leonardi et al., 2010; O'Leary et al., 2014

Therefore, we decided to take an inductive approach to this study (Charmaz, 2006; Corbin & Strauss, 1990), collected data on the lived experience and natural field data (Silverman, 2011), and iterated between the data and extant theory (Eisenhardt, 1989). In doing so, we explored how relationships are created and maintained at work and thereby, "fill[ing] in what has been left out—that is by extending and refining its existing categories and relationships" (Locke, 2001, p. 103).

3.3.1 Research setting

We selected TechCorp (our pseudonym), a technology company with more than 100,000 employees worldwide. We focused on one of their European subsidiaries, TechSub (our pseudonym), as the empirical setting of our research. TechSub made the radical decision to close its corporate office for several months while continuing 'business as usual'. In total, around 900 employees worked at TechSub in the months around the temporary closure.

3.3.2 Data sources

We purposefully sampled and 25 interviewees at TechSub because they were in an organizational context where the phenomenon of interest was most likely to be visible (Patton, 1990). Specifically, we were interested in understanding how employees cope with a change in their workplace configuration and how this impacts their work relationships. The case of TechSub is well suited for this aim. First, the company's decision to remove the corporate headquarters from the employee's workplace configuration created conditions of profound change. Second, the company provided the employees with the technology to work flexibly and remotely for over a decade; thus, this stayed constant. Third, the change from a configuration with a shared office, to one without a shared office allows us to compare both settings.

All our respondents were knowledge workers, consisting of customer-focused (e.g., technical specialists), client-focused (account

Table 3.2 Overview respondents

#	Hierarchical role	Tenure*
P01	employee	high
P02	employee	low
P03	employee	medium
P04	employee	high
P05	employee	medium
P06	employee	low
P07	employee	low
P08	employee	low
P09	employee	low
P10	middle manager	medium
P11	middle manager	low
P12	employee	high
P13	employee	Low
P14	employee	high
P15	employee	low
P16	employee	low
P17	employee	medium
P18	manager	high
P19	employee	low
P20	employee	low
P21	employee	high
P22	employee	low
P23	manager	high
P24	middle manager	high
P25	employee	high

* tenure (years): low = 0-3, medium = 4-7, high = 8 and above

managers), internal staff functions (e.g., human resources). Our contacts at TechSub selected the initial 12 respondents based on our request for a diverse set that would reflect a range in tenure, opinion of change, departments, hierarchical level and involvement in the change process. We selected the other 13 respondents through referrals or approaching potential participants during field visits onsite. A brief conversation helped us to determine if they would be informative to the study based on the abovementioned criteria. By also sampling onsite, we aimed to reduce the selection bias. As Table 3.2 shows, our access reached across levels of the organization. The sample was also diverse regarding hierarchical role at the time of closure (80% employee; 12% middle manager; 8% manager), age

Table 3.3 Overview data

Data	Details	Purpose
25 interviews	• average length of 59 mins, 36 to 87 mins • across hierarchical level, departments • indicated by participants numbers: P#	Inform our understanding of all phases. Provide employee's reflections on the impact of the closure.
25 vlogs	• average length of 2:36 mins; total of 66:07 mins • 9 vlogs from 3 non-respondents • 16 vlogs from 5 respondents • Indicated by document numbers: D# (combined with documents as secondary data source)	Inform our understanding of the closure phase. Reveal employee experiences and reflection.
21 documents	• total of 135 pages • 16 internal documents (meeting notes, email announcements, slides) • 5 external documents (press releases, slides, articles) • Indicated by document numbers: D# (combined with vlogs as secondary data source)	Inform our understanding of the old office and closure phase. Reveal how the company prepared the employees and communicated.

(20% was 20-29; 28% was 30-39; 28% was 40-49; 24% was 50-59), gender (52% male; 48% female), and years of tenure (48% low tenure; 16% medium tenure; 36% high tenure). We included advocates and opponents as well as different levels of involvement in the transformation. Going into the interviews, we were unaware of the respondent's opinion about the closure.

We conducted the interviews about nine months after TechSub moved into the new office. Typically, such retrospective interviews are associated with the recall effect (Golden, 1992) and people tend to construct a coherent self-narrative after the fact (Fachin & Davel, 2015). To improve these issues, we asked about *what* happened in a particular instance and used a visual timeline on which respondents situated the event by pointing it out. In several cases, this led interviewees to realize that they

had remembered the order of events differently and they were able to correct it. Interview topics included the employees' reflections on their experiences just before the closure, during the closure, and upon return to the renovated office. We focused on office transformation events, interaction and collaboration, as well as the role of place and technology. Sample questions included, "*Tell me about how the closure impacted the way work. What did you notice?*" (interview guide in Appendix 3.1). Although when embarking on this study, our goal was to understand how different physical places affected work, our questions were open so that the most critical issues for our informants guided the conversations. Each interview was about one hour long and took place in private rooms at TechSub's new office. Only on two occasions, the interviews were conducted remotely because the interviewee's schedule did not allow to meet in person. We also made sure to be around before and after the interviews for several hours to conduct informal observations at TechSub's office.

To complement our interview data and understand how the closure affected the employees at the time, we also collected documents during the interviews, such as email announcements or slide decks (Table 3.3). Also, nine employees had volunteered to record short videos during the transformation for TechSub. We accessed these video blogs on the employees' personal and TechSub's social media channels (YouTube, LinkedIn).

3.3.3 Data analysis

We coded our data according to empirically grounded theory procedures (Charmaz, 2006; Corbin & Strauss, 1990). As is common in inductive analysis, the research question changed over time, and we refined it during the iterative process of data collection and analysis. In preparation, we transcribed the interviews and the audio of the interviews. The video transcripts were then added to the visual of the videos so that these could be coded in the same way as interviews, with the exception that we coded

for visual and textual input separately.

We started by openly coding the data for how respondents experienced the working during the mostly co-located and distributed phase. From this initial set of codes, we further developed provisional codes (Locke, 2001). For example, 'Running into each other' to discuss the role of chance encounters. We distinguished the codes by phase so that we could detect differences between the settings with and without a shared office. Then, we went on to arrange the codes into broader categories, such as 'Maintaining relationships'. As we continued coding in a more focused manner (Charmaz, 2006), we also went back to the data to see how it matched our understanding of the category. It became clear that the physical, shared office played an important role in work relationships and that the relationships were not described in a dyadic form (as we expected). We decided to code and created tables for the relationship activities that the employees engaged in. By then, we realized that it was not the office itself but rather its role as part of the broader repertory of workplaces. This was the time when we arrived at the notion of workplace configurations. It was then that we also started iterating more between the data and the academic literature.

3.4 Empirical setting: office closure

Towards the end of 2015, the soon-to-be ending lease for TechSub's current building sparked the change journey concerning what the next corporate office of TechSub would become. TechSub was particularly known for its forward-thinking office building concepts, but in their view, the innovativeness of the current building had faded over the years. This perception was in stark contrast to how external visitors perceived it who visited the office building until the day of the closure to "be inspired".

After evaluating various options for the next building (e.g., brand new office or relocation) in the first half of 2016, TechSub and TechCorp

Table 3.4 Illustrative evidence: Office transformation

Topic	Illustrative evidence
Office transformation	"I've always felt connected to [TechCorp] and to my work. When I came to this building this morning and saw [TechCorp] in big letters outside, it really moved me. I felt like coming home to a place where I belong. I've learned that having a connection with people isn't just a matter of how you find each other, it's also about coming together in a common place. And it's at least in part the office that gives you and identity." (D17)
	"This transformation had such an impact that it was just a level up. It just touched everyone in their core: I've lost my spot, I've lost my office, I don't see my colleagues anymore." (P12, middle manager, high tenure)
	"It was really important for us, our office was always a cornerstone, a showcase of who we are as a company." (P11, middle manager, medium tenure)

decided to renew the lease for the current building and renovate it. Around July 2016, a transformation team (group of internal, dedicated change agents), assessed what the employee's needs and preferences around their workplaces were. The results indicated a reduced need for physical place and a necessary shift towards department-independent working. TechSub's management and change agents had substantial changes in mind: a radical change of the concept so that the building could better facilitate TechSub's strategy of openness towards the customer. The closing period was necessary for the major construction work and a symbolic break with the old ways of working, as a change leader explained,

> *"When you decide that you will do that … we quickly said, 'Let's use the momentum, right? People have clients in other places, a network idea'. […] We can use [the office transformation] in favor of the goal that we want to achieve." (P18, manager, high tenure)*

Also, they decided to partner with a co-working space that would provide offices to startups within TechSub's office around current technology topics.

As the planning moved along, the upcoming changes were officially communicated with the employees. There was a significant event to announce the closure (fall 2017), during which TechSub invited all employees and become involved in the project. There were four project groups, each of which focused on a different area of the transformation (customer journey, employee's new way of working, mobility, & technology). Another way to be involved was by participating in one of the pilot studies around the same areas.

As the closure in the first quarter of 2018 approached, there were more events taking place intended to prepare employees, as well as to mobilize them for the physical changes. For example, alternative work locations were announced: TechSub provided the employees with access to locations of a nationwide co-working space provider and access to a public workplace opposite to the corporate office's location. Employees were also encouraged to work from home and from their client's offices, the latter with the intention to foster external relationships. The technology to support working during the distributed work phase was an upgrade to what the employees had used for some time already. Most importantly, they used a collaborative work tool (CWT) for file storage and sharing as well as communication (project-related and private channels). There was also an enterprise social media (ESM) for information exchange. Table 3.4 provides illustrative data about the transformation.

At the beginning of March 2018, the employees started to return to the office. As the construction work continued, the employees were able to use more and more of the office building. Specifically, in the first four months, they could only work on the two floors that were later assigned to the partnering co-working spaces. By the end of the year, external visitors and customers were also allowed to visit the office.

3.5 Findings

At TechSub, work had already expanded beyond the spatial

boundary of the corporate office for the better half of the decade. It was common to work flexibly at the office, at home, or at a client's office and TechSub provided the necessary technological infrastructure to do so seamlessly. Nevertheless, workers commented that when TechSub closed the shared office – despite available alternative workplaces – the relationships with coworkers were greatly impacted. We explored with our respondents how removing a shared office from the employee's workplace configuration shaped the employees' work relationships. In doing so, we found that workplace configurations can be described along three dimensions, and that these dimensions differently affected relationships. We then turn to how the employees coped with the closure by defining new centers for their organizing. Lastly, we illustrate the limits of their coping efforts and draw conclusions. We support and illustrate our findings with quotes throughout the study and in Tables 3.5, 3.6 and 3.7.

3.5.1 Dimensions of workplace configurations

In our data, we identified three dimensions to describe workplace configurations: shared centrality, locational transparency and negotiated legitimacy. The first dimension is *shared centrality*, which we defined as the agreed-upon center(s) around which work is organized. For example, the presence of a shared office usually means that an employee works in a workplace configuration with high shared centrality. In the words of a respondent, "*everyone is going there [the office]*" (P02, employee, low tenure). The quote emphasizes the importance of the collective agreement on a center. TechSub's closure of the shared office eliminated the agreed-upon hub from the employee's workplace configuration: "*The building, it was the hub where I meet people. Rather than the office where I have my children's pictures. That's a big difference.*" (P07, employee, low tenure).

The second dimension is *locational transparency*, which we defined as the availability of information about coworker's whereabouts. During the closure, alternative workplaces were introduced and TechSub's employees were encouraged to use them. However, it was often unclear where

coworkers worked: "*that was the conversation amongst colleagues, really. 'Where do you work tomorrow?'*" (P08, employee, low tenure). Thus, the employees perceived a change in locational transparency across the employees' workplace configurations[3].

The third dimension is *negotiated legitimacy*, which we defined as the accessibility of locations. We observed that as the workplace configuration changed, it was not only the case that a location was removed but also new ones added. For example, work expanded to a colleague's home or a client's office. One employee shared how the closure triggered negotiating access to new workplaces:

> *"I thought, I can just work at my colleague's home. […] I think that if the office hadn't been closed, I wouldn't have invited myself as easily. […] When the office was still open, I never went to anyone's home."*
> *(P09, employee, low tenure)*

Similarly, working at a client's office was not only viewed by the employees as an option but supported by (some of) their clients: *"We were offered a room [by our client]. And it changes how your contact is, it becomes much more informal and fun."* (P04, employee, medium tenure). Workplaces differ a lot along this dimension, such that a workplace may be accessible to some employees but not to others. For example, while every employee had access to the company-paid co-working space, each coworker decided who could work at their home.

3.5.2 Relationship layers at work

When we explored how workplace configurations shaped work relationships, we discovered that our respondents used a vocabulary of layers. They described a *core*, a *mid-layer*, and a *peripheral* layer of

[3] It needs to be noted that in the specific situation where a configuration only has one center, locational transparency is linked to the first dimension, shared centrality.

relationships (viewed from the perspective of the individual employee). The layers differed qualitatively along the source of the connection and intensity of involvement (Table 3.5). Concerning the source of the connection, relationships at the core layer originated in current shared projects or strong personal links, at the mid-layer in past shared projects and the peripheral layer only shared an organization. There was also mobility between these layers over time. For example, as project teams changed or employees developed stronger relationships independent of work, the employees experienced changes in the relationship layers. Turning to the intensity of involvement, the core layer involved frequent meetings and was supported by regular (digital) communication. In contrast, our respondents commented that they maintained the relationships at the mid-layer through occasional interactions, such as unplanned encounters in the hallway or occasional phone calls. And the colleagues in the peripheral layer required no regular interaction but instead would be called upon once a purpose was identified (e.g., meeting a new colleague).

3.5.3 Workplace configurations shape relationship layers at work

In our analysis, we found that during the closure people's core work relationships intensified, the mid-layer relationships diluted, and the peripheral relationships were hindered. As the change in workplace configuration affected each layer of relationships, we carefully chose examples for each layer and one dimension as an illustration of the impact.

First, most noticeable was that the core relationships intensified. The employees maintained the core relationships (shared project and/or strong personal relation) through planned (and often recurring) meetings,

> *"You saw more people planning recurring meetings to do updates and check-ins, which you would otherwise have face-to-face when you encounter someone in the hallway." (P06, employee, low tenure)*

Thus, the distributed setting required more effort than when the shared office was part of the workplace configuration. One manager summed up how the relationships changed as a result of it,

> *"The touchpoints with my inner circle became closer, more frequent and more intense. So, my circle became smaller because everything outside it, I did not really need and did not encounter." (P18, manager, high tenure)*

In doing so, the employee's core relationships solidified. This effect of the change in workplace configuration on the core relationships may in part be explained by being formally associated with the same client and thus a necessity to keep in touch.

When we asked our respondents how they worked with their project teams, we were surprised at the mention of colleague's homes as workplaces because being able to work there required the host's permission. This is an example of how accessibility of workplaces changed along during the closure (negotiated legitimacy). One of our respondents described how he experienced such a work session:

> *"We sat at the kitchen table but actually that was -- I have good memories about it and it wasn't like 'Oh, how weird that we are sitting in [colleague]'s home'. […] You are sitting with a laptop at a table, talking about business, so in the end the physical location or the setting isn't as important. […] Getting together is important. "(P23, manager, high tenure)*

This quote signaled a change from each employee working in their own home (before closure) to also opening one's home to colleagues (only during closure). Working at colleague's homes was experienced as providing additional personal insights into colleagues and thereby brought them closer. One of our respondents shared an anecdote of how sharing a personal location intensified their relationship:

Table 3.5 Illustrative evidence: Relationship layers

Relationship layer	Characteristics
Core	***Source of connection***: current shared project and/or strong personal relation ***Intensity of involvement***: frequent, (un)planned physical and digital interaction
Mid-layer	***Source of connection***: past shared projects ***Intensity of involvement***: occasional, (un)planned physical interaction, sometimes supported by digital interaction
Peripheral	***Source of connection***: shared organization ***Intensity of involvement***: no interaction until specific purpose identified

Illustrative evidence

Relationships with project team: "I mean the relationships are good, you can maintain them. But because you are not physically together, you miss something. When you don't look for that, then your relationships weaken. […] You have to physically get together at a certain frequency, once or twice a week, to maintain the relationship and keep it right." (P16, employee, medium tenure)

Relationship with team members: "All these people were close to me. [But] the people that you don't work with, they are automatically farther away." (P17, employee, medium tenure)

Face-to-face meetings during the closure: "We made someone in the team responsible for arranging it all. It was a logistical matter. That's how we met each other in different spaces. We saw each other every week." (P11, middle manager, medium tenure)

Contacting people in mid-layer: "I thought, 'It's good to catch up with [colleague]', so I would call her in the car. But you don't just randomly think 'I will call [colleague]' because […] without having a purpose." (P18, manager, high tenure)

"But there is also a big group that you don't really know, who you only recognize by face or with who you talk once per half a year." (P17, employee, medium tenure)

Finding new projects: "I knew its project manager already and then you chat once in a while. But then, because you encounter this person more often, next time he will think 'I have a great project. I'm looking for a developer: [P22].' And that is something that won't happen if you didn't meet that person once in a while at the office and have a coffee with." (P22, middle manager, low tenure)

Peripheral layer disappearing: "The layer that encloses others, where your other colleagues – the ones that you don't know directly but also walk around here – disappeared. It's just invisible, it just wasn't there anymore." (P12, middle manager, high tenure)

Newcomer perspective: "People were trying to have personal contact. But not having an office doesn't help. It's like limbo." (P13, employee, low tenure)

"Everyone has to take off their shoes, and then you see … it's really small, stupid things but then you see each other's socks! And then everyone wears really weird socks and then … it creates another dimension of being human." (P20, employee, low tenure)

Second, the mid-layer relationships were diluted and most affected by the difficulty of (not) knowing where coworkers were (locational transparency). This was the case because by closing the corporate office, employees could work at many potential locations, and the information about other's whereabouts was not readily available. An employee shared his frustration when trying to find coworkers that he knew in other parts of the company: "*When I needed someone from another division, then I never really knew where that person was. I still don't know exactly [in the new office], but I know that the person is inside the building.*" (P03, employee, medium tenure). Even though employees had established relationships in the past, and it was typical for employees to have one's calendar accessible to coworkers, the work locations were much less so. This opacity was an obstacle to maintaining relationships with colleagues from previous projects and, in turn, future collaborations (also evident in Table 3.5) Thereby, our respondents perceived the information about other worker's whereabouts to be opaquer (less locational transparency) upon removing the shared office from the workplace configuration. Thus, TechSub's shared office did not necessarily reduce the possible locations (it was still a big office) but instead brought one location to the foreground.

In addition, the mid-layer relationships were also affected by the lack of shared centrality, which one manager explained as such, "*They [other teams] met but then you weren't there [at the same physical] location.*" (P12, middle manager, male, high tenure). We learned that planned interactions were with coworkers from current projects (core) whereas unplanned interactions were more focused on people that were in the mid-layer of relationships. The following quote illustrates the difference that shared centrality had for planned and unplanned interactions, of which the latter facilitated maintaining mid-layer relationships: *"For me, everything that was not planned but where you have a lot of interaction with people, that's what*

I missed." (P23, manager, high tenure).

Third, concerning the employees' peripheral relationships, the lack of shared centrality impeded the peripheral relationships. An employee described how the shared office was important for establishing new connections and how its removal hindered them:

> *"I often had to work together with people who I had never seen. And normally, I could have just had a quick meeting at the office, like 'Hey, let's meet'. However, the majority of colleagues doesn't work or live in [city]. So, they didn't come to the [co-working space location in city]. So that was that. The physical contact was a lot less." (P08, employee, low tenure)*

The quote also shows how employees were able to organize their work more individually. In doing so, workers often made meeting agreements only within teams (core relationships) but did not consider their (potential) peripheral relationships. While this is conceivable – core relationships are based on actual, short term needs to interact – it nevertheless presented a hinder for potential interactions.

One exception was a particular group of employees with client-facing roles in account management and sales. For them, not only the number but also the composition of the peripheral relationships changed during the closure: "*It was amazing because I met so many new people with who I am still in touch […] My ecosystem really expanded.*" (P02, employee, low tenure). The employee's external relationships (clients) were differently affected than their relationships with colleagues. Many employees worked at client locations during the time of the closure. One employee shared in a blog that, to some extent, the external relationships replaced the internal peripheral relationships: "*Because the spontaneous encounters with colleagues at the office, those are sometimes spontaneous encounters with start-ups and partners."* (D101).

Overall, our findings emphasize how a change in the workplace

configurations had a remarkable impact on the employee's relationships with coworkers. To cope with the impact on the peripheral and mid-layer relationships, employees adapted by reconfiguring, as we explain next.

3.5.4 Coping by reconfiguring

To cope with the diluting impact of removing the corporate office from their workplace configuration, employees aimed to restore the conditions that facilitated connecting with their more removed coworkers. Specifically, after TechSub removed the corporate office as a center of the employees' workplace configurations, the employees coped by reconfiguring around other centers, of a physical and digital nature (Table 3.6). In their coping efforts, employees encountered limits: chance encounters and situational richness (Table 3.7).

Reconfiguring. First, we found that employees shifted towards new physical centers. Once the corporate office did not represent the physical center of the workplace configuration anymore, employees' homes became central to how the employees organized. The availability of co-working spaces across the country enabled this, as an employee shared,

> *"I live in the center of [city] and there were a number of [co-working spaces] where you could go and my colleagues only wanted to go to the locations where parking was available because they all have a car. […] However, people my age, or a younger group, they all live in the center of [city], so suddenly I saw them more often because they wanted to go to the same locations [of the co-working space]." (P15, employee, low tenure)*

The quote illustrates how employees defined new physical centers of their workplace configurations. As the new center was not linked to formal work connections (but could coincide), it enabled employees to meet new colleagues. This suggests that workplace configurations need to be high on shared centrality of a physical center to enable peripheral relationships. Core and mid-layer relationships also require high shared

centrality but were able to reconfigure around a different type of center, as we explain hereafter.

Second, the other center that became apparent was around the company's digital collaborative work tool (CWT). The following quote was a response to how work has changed during the closure, "*I don't get that many emails, my work really just revolves around the [CWT]. And that has probably been the most trans-formative thing in the way I've worked*." (P19, employee, low tenure). The employees' reliance on the CWT for their core and mid-layer relationships increased and substituted for the lack of a shared office. For example, it became common to send someone a private chat message to check whether they were available for a meeting or questions (instead of checking in face-to-face). As one employee put it, "*The most frequently asked question is: Where are you?*" (P04, employee, medium tenure). However, coworker response rates were more variable digitally because the remote nature of the communication allowed colleagues to disregard their colleagues reaching out when it was inconvenient. One of the middle managers described how the distributed and the co-located context differed when one needed to reach a colleague:

> *"If you send people a ping [instant message], it's just one of the numerous notifications that you see. And then you read it, and maybe you get an answer, or it's just put aside. Versus that you just ask someone, and you are standing next to them, and you can immediately show them. That's so much faster, more direct, and actually a better experience for both parties. So that is a crucial difference." (P22, employee, low tenure)*

Upon return to their new shared office, this new way of checking colleague's availability continued (next to taking up old ways again). Thus, employees coped with the change to their workplace configurations by shifting towards new centers. While we presented the centers separately for analytical reasons, it is important to realize that the two types of centers often existed simultaneously, thereby making the workplace configurations polycentric. Also, the workplace configurations became more diverse

Table 3.6 Illustrative evidence: Reconfiguration efforts

Type of center	Illustrative evidence
Physical	***WhatsApp group for a geographic region*:** "A) so that we knew who was from the area of [city] in that time. B) so that we, the actual goal of the app was that you could signal 'Hey, I will be working at [coworking space location] today. Who else will be there?'." (P07, employee, low tenure)
	***Reconfiguring around alternative places*:** "You saw the distance increasing between the groups, either between ages or between phases of life […] People with a car from outside [city], they wanted to go to specific locations, whereas people who live in [city], they wanted to go comfortably by bike to [co-working space location]." (P15, employee, low tenure)
Digital	***New ways to communicate*:** "But I had the feeling that, when the building was closed, we had found a way of working with each other using [CWT]. […] if you needed me, you send me a quick chat message. Then you would get a reaction the same day, which was really unique." (P11, middle manager, medium tenure)
	***CWT developing into a hub*:** "And with [CWT], it's shaped completely differently. It's just much more than a normal chat application like you are used to. You can share things in your team, with your channel, everything is nice and demarcated for each project team. You have your plug-ins; calling is also very stable. Actually, it has become much more of a hub where your communication takes place. However, with [old CWT] you still needed to transfer things to e-mail, which you now just post in a team channel." (P22, middle manager, low tenure)
	Increasing reliance on CWT for collaboration: "We did more [virtual CWT] meetings, [CWT] was the default when the office was closed. Because there wasn't really anywhere to go, right? […] if were just collaborating on our day-to-day work, we would do more on [CWT]." (P19, employee, low tenure)

across the employees. Through their coping strategies, the dimensions of the workplace configuration changed such that they facilitated work relationships again. Shared centrality was achieved as the employees shifted towards the new centers. Also, information about coworker's whereabouts (locational transparency) became less opaque as the number of likely locations was reduced, and they developed the practice to ask about other's work locations. Finally, the employee's accessibility of workplaces (negotiated legitimacy) became more diverse along with the new workplaces as part of the configurations.

Limits of reconfiguring efforts. Despite the employees' ability to reconfigure around new centers, two areas proved difficult: chance encounters (physical place) and personal connection (digital space). First, we found that the shared office building facilitated a seemingly trivial behavior that turned out to be crucial for the way of working at TechSub: chance encounters, which are brief, unexpected face-to-face interactions (Irving et al., 2019). When TechSub closed the shared office, this behavior was lost. As one employee put it,

> *"The temporary 'no office' period required us to communicate and work differently. […] We missed the 'now-that-I-see-you'-effect." (P07, employee, low tenure). At TechSub – a "coffee organization" (P20, employee, low tenure)*

Chance encounters often happened while drinking coffee and created important moments to interact for work coordination or checking in with each other personally. The lack of chance encounters was most noticeable for the mid-layer relationships, where they were an important mechanism to maintain relationships. One of our respondents compared how having a shared office compared to the distributed work phase,

> *"You don't forget that [check-ins], but when you have to call, and they are in a meeting, the effectiveness was reduced because, let's say, just when you were getting coffee and waiting in line together, we actually worked a lot already." (P24, middle manager, high tenure)*

The shared office building afforded these unexpected encounters, such that the proximate presence of a colleague in a shared location acted as a visual cue to act. At the office, the central coffee bar was the most prominent location for such encounters, as a manager explained:

> *"Close to the coffee machine. When I want to open myself up to some easy one-on-ones without needing to plan them […] Then, these are the things I do, and the space facilitates that completely." (P11, middle manager, low tenure)*

A cup of coffee was also seen as a symbol of availability for coworkers to be approached, thereby making it feel legitimate to stop and talk. One middle manager tries to explain the unwritten rules about holding a cup of coffee:

> *"Because you have the idea that when you pass by, it's really easy to say to someone, 'Do you have a moment?'. To call someone or to ping someone [instant message] even though you don't know if the person is in a meeting or if the person is available. It feels like I need to have something more important if I don't see you physically than when I see you pass by with a coffee in your hand. Then I know that you probably have a minute." (P22, employee, low tenure)*

When the employees did not share an office anymore, the information about a coworker's availability was much less available. Nevertheless, the employees also recognized that chance encounters at the office were a balancing act. One worker explained that the effect was different in terms of timely orientation: *"It's also really distracting; you can't get work done. When I'm at the office, I assume that I won't get anything done. Instead, I will start up some long-term stuff."* (P20, employee, low tenure). We found that such a long-term perspective was focused on being on each other's radar for projects, hence maintaining work relationships.

Second, the limits of the reconfiguration efforts also concerned the digital space. TechSub's employees strongly relied on collaborative technology for their work. Employees critically noted that:

Table 3.7 Illustrative evidence: Limits

Limit	Illustrative evidence
Chance encounters (physical place)	"My social interactions are not necessarily planned 'I want to get this and this from doing something'. But it all has side effects, in the positive sense. Because then you just talked to someone, 'Oh god, we are looking for someone for this project.' or 'This [project] is available.'. And then you just get it via via, just randomly you get a really cool project, which you wouldn't have gotten through normal corporate channels like it's supposed to go. But that's [via social contacts] just much more convenient." (P22, middle manager, low tenure) "I think it was lower, just lower. No spontaneous encounters, less spontaneous encounters. Mainly that." (P14, employee, high tenure) "It's really the by-chance-coffees. And that's what you are completely missing. And plus, when I came back here [to the office], I didn't recognize a lot of people. That was really crazy." (P20, employee, low tenure) "When I stand there, call it the 'focal point', having coffee and I see five people. When I see them, I think 'Oh, wait' and you pass something on to someone in one sentence like 'Don't forget' or 'Will we see each other' or 'Can you bring this today'." (P24, manager, high tenure)
Situational richness (digital space)	"Face-to-face is just different than via phone. Also, the feeling of belonging somewhere, that people see you and that you see people and that you are [TechSub] together." (P15, employee, low tenure) "I don't believe in working completely virtual. I think it's important to look people in the eye and the feel what is going on and to anticipate. That's just not possible on the phone." (P07, employee, low tenure) "Usually people are really responsive via the phone or the [CWT], that's okay […] for tasks, it doesn't matter that much if I see my team members virtually or face-to-face. But for knowledge sharing, inspiration, fostering team spirit, so the more soft things, there it is really important." (P20, employee, low tenure). "Because the way I use [CWT] or email, it can irritate each other. Or the tone of voice. And physically together, you would find out that someone has a different way of communicating. That's what you are missing." (P16, employee, medium tenure) "And so, if it was something where it was more, more relational somehow or with learning […] then we would try to schedule in person," (P19, employee, low tenure)

"The [CWT] contributes, so that you are more often in touch […] But if it substitutes for the physical [interaction], I don't know. It doesn't feel that way." (P16, employee, medium tenure)

"when we collaborate, it's always a... there's always a [virtual] meeting attached, but I'll always ask people if they're going to be in the office. Because if they are, I prefer to meet in person." (P19, employee, low tenure)

While the technology was able to support working during the closure to some extent, it became clear that there was a fundamental difference between virtual and face-to-face interaction. One vlog echoed the general sentiment very well,

"At the office, you always meet someone who makes you think: I was looking for you. And then you talk, and you get new ideas you can develop. So, the creative part is missing. Now, you really have to think: Whom do I need? I need to call them or maybe send a message ... lots of ideas used to develop when you were networking at the office." (D17)

This quote above and the quotes in Table 3.7 illustrate well that while the technology was able to facilitate interactions, the employees lacked creativity and intimacy.

3.6 Discussion

The article started with a discussion on how the extant literature's focus - on individuals working in a single work location or on the distance between locations - is not always reflective of the contemporary worker. To provide insights into this issue, we studied workplace configurations and how they affect work relationships during a change. Our study contributes to our understanding of how workplaces influence work relationships by introducing the concept of workplace configurations and relationship layers. Furthermore, we identified three dimensions of workplace

configurations, namely shared centrality, locational transparency, and negotiated legitimacy. Specifically, when employees faced the closure of the corporate office, they coped with the new workplace configuration by reconfiguring around new centers. With these findings, we provide a novel perspective on how the workplaces in contemporary work are connected.

3.6.1 Theoretical implications

Our contribution to the literature is threefold. First, the findings of the current study extend the research in the area of work relationships (Heaphy et al., 2018; Khazanchi et al., 2018; Wineman et al., 2009). Specifically, we introduce the notion of relationship layers, which resembles a radial dynamic with the individual employee at the center. While the notion of relationship layers may seem intuitive to many readers, we did not find a similar concept in the literature. They are different from a network view where individuals are connected directly and indirectly through path with each other. In the layers, the source of the connection and intensity of involvement define who belongs to each layer. Thereby, each layer represents a different degree of perceived closeness. Thereby, we add to previous work on perceived proximity in relationships (O'Leary et al., 2014; Wilson et al., 2008). We found that the removal of the corporate office affected relationship layers differently, such that people's core layer of work relationships thrived, but their more tangential relationship layers suffered. Thus, our findings suggest that it is indeed crucial to treat relationship layers differently and in future research take into account how employees perceive them, thereby responding to Khazanchi et al.'s (2018) and O'Leary et al.'s (2014) call to take into account the variations in relationship quality.

Second, the current study further develops our understanding of contemporary workplaces (e.g., Bernstein & Turban, 2018; Gandini, 2015; Hislop & Axtell, 2009; Kossek et al., 2015) by showing how a worker's different contemporary workplaces relate to each other. Specifically, although others have studied various aspects of workplaces, such as proximity and distance (e.g., Bernstein & Turban, 2018; Fayard & Weeks,

2006; Hertel et al., 2005; Hinds & Kiesler, 2002; Spinuzzi, 2012), we are, to our knowledge, the first to address workplaces at an overarching level by introducing the concept of workplace configurations. Workplace configurations reflect the complexity and dynamics of modern physical work arrangements. By viewing workplaces as part of a workplace configuration, rather than individually, we can observe the shift of the centers of organizing. We further identified dimensions to describe workplace configurations and capture changes along them. Specifically, we go beyond describing the workplace configurations using size and variety by identifying the dimensions of shared centrality, locational transparency, and negotiated legitimacy. This links to work by Khazanchi et al. (2018), who proposed a model of office dimensions and how they shape work relationships through communication. We complement their conceptual model, which focuses on a single location (the office), whereas we take a more overarching perspective with workplace configurations.

Furthermore, the configurations consist of spatial elements (the workplaces), but the three identified dimensions have a social nature. Thereby, we build on the work by Fayard and Weeks (2006) who emphasized the importance of considering the social aspects of physical workplaces. Their concept of social designation, which is the feeling of legitimacy to be in a place that stems from its "geography, architecture and function" (Fayard & Weeks, 2006, p. 623), relates to our workplace configuration dimension of negotiated legitimacy. A next step could be to study the dimensions more thoroughly across other changes.

The similarity in findings across contexts strengthens the argument to consider the social aspect of workplaces. Also, by conceptualizing workplace configurations as consisting of physical locations, we viewed digital technology as a moderator of how workplace influence work relationship (Khazanchi et al., 2018). However, our findings showed that employees shifted towards digital centers to maintain some of their work relationships. Therefore, future studies should take the digital space more prominently into account when studying workplace configurations, for example, by studying them as polycentric configurations.

Third, we contribute to the literature on the link between workplace and relationships (Heaphy et al., 2018; Khazanchi et al., 2018). We detail how workers cope with a change in their workplace configuration by reconfiguring around new physical and digital centers to maintain and build work relationships. Our findings suggest that a physical center is particularly conducive to one's mid-layer and peripheral relationship layer and a digital center to the core and mid-layer relationship layers. This relates to Rockmann and Pratt's (2015) study, which is also an example of a decentered workplace configuration through the introduction of remote work opportunities. In their study, it was not the actual loss of the corporate office but the perceived loss of the office which triggered the employees to define new centers for their organizing. Specifically, in their study, the employees did not agree upon the physical center of work anymore (fewer people came to the office), which in turn diluted the relationships with coworkers (feeling lonely). Thus, while a change in workplace configuration may superficially seem trivial (e.g., still multiple workplaces), the loss of a center and then shift towards other centers have tremendous relational consequences and need to be coped with. While the authors did not specify how it affected different layers of relationships separately, their study still demonstrates overlap with our findings, suggesting that our findings can be applied to other contexts as well. As a next step, one can imagine a study where a different change is investigated, for example, the elimination of remote work as in the case of Yahoo! (Cain Miller & Rampell, 2013). Alternatively, scholars could turn their focus on the peripheral relationships. While there is some research on avoiding serendipitous encounters (e.g., Irving et al., 2019), there is more research needed on the serendipitous encounters of coworkers who do not know each other yet – and what the implications are for individual and organizational outcomes.

3.6.2 Limitations and future research directions

Although we have made contributions to different streams of the literature, we also need to note some specific limitations of our study, as well as suggest related avenues for future research. First, the interview data

were collected retrospectively. Such data are often associated with the recall effect (Golden, 1992). To counteract this and improve recall, we asked about *what* happened in a particular instance, probed for details of the events, and used a visual timeline to situate the event. We believe that by asking the respondents for such an amount of detail (e.g., the location and people involved), they were only able to recall these events if they had taken place.

Second, we relied on verbal recollections of our participants about their experiences as the primary source of information. Thereby, our respondents were potentially able to filter out experiences and feelings that they might not want to share. We counteracted at least some of the effect by using complementary vlogs (short videos) and documents from the time of the closure to provide additional sources of data. However, future studies might want to study such a pronounced change during the time of the actual change and add ethnographic observations to their data. This could be further complemented by quantitative data, such as network data from face-to-face and electronic interaction, to conduct a mixed-methods study.

Third, we focused on the similarities across our respondents in the way that they adapted to working without a shared office. However, the two offices (old and new office) are also substantially distinct, and it may be fruitful to compare these as well to understand whether their roles within the workplace configuration differ. While our study provided us with a qualitative understanding of the configurations' impact on work relationship layers, a quantitative approach would be complementary. For example, one can imagine comparing the layered relationships (physical interactions through the use of sensors (Bernstein & Turban, 2018); digital interactions as usage data) and their effect on organizational outcomes.

3.6.3 Managerial implications

Our study also holds several learnings for employees and organizations engaging in distributed work. As employees in distributed work cannot depend on a shared office to facilitate encounters,

organizations need to provide opportunities to maintain their mid-layer relationships in other ways. One way could be to create an online space where workers receive occasional notifications to remind them with whom they have had shared projects. This data underlying this idea is likely to exist within the company already. Similarly, for the peripheral layer, themed channels on topics relating to work or leisure can facilitate connections between people who are not otherwise connect. This would offer employees the opportunity to explore and discuss ideas and tools (Wenger & Snyder, 2000). Immersive technologies offer even more opportunities to bridge the distance and create the situational richness, or "being there" (Cummings & Bailenson, 2016), that employees desire. For example, one can imagine fully functional, 3D virtual environments with direct channels to other workers. Another way could be for organizations to facilitate, if possible, social gatherings that bring together employees based on their mid-layer or peripheral source of connection. Even site visits to other locations could support this purpose (Hinds & Cramton, 2014). This would allow employees to experience the situational richness and share personal information that they may have withheld in virtual communication.

3.6.4 Conclusion

In conclusion, the current study provides insights into how workplaces are linked to work relationships. We introduced the concept of workplace configuration and identified three characteristics; we showed how a change in workplace configuration impacts three layers of relationships at work differently; and we demonstrated that for serendipity and situational richness of work a shared physical place is better suited than digital technology. We also argued that by viewing a workplace not as a single location but as consisting of multiple locations, we display more accurately how contemporary workers organize work. We discussed these findings in view of current literature and offered directions for future research. Based on future empirical evidence, we may be able to judge how to best leverage workplaces to build and maintain relationships.

Acknowledgements

We would like to thank Ella Hafermalz for her suggestions, which have helped to focus the coding process. Also, we appreciate the approval and support that we have received from TechCorp and TechSub, as well as the individuals associated with it. We are thankful for the time that our interviewees have devoted to sharing their experiences with us. Finally, we gratefully acknowledge that this work is part of the research program New Ways of Working and Human Capital Development with number 409-13-212, which is (partly) financed by the Netherlands Organisation for Scientific Research (NWO).

4 IDEAS IN PLACE

INTRODUCING A TRANSPARENCY PERSPECTIVE ON INNOVATIVE BEHAVIORS IN OPEN OFFICES

"It seems to be human nature to think differently of the observation of others and the observation of oneself."

- Bernstein (2017, p. 219)

Summary

Open offices are characterized by transparency, but the literature on open-plan offices has primarily treated this spatial characteristic as context. We propose to draw on the concept of transparency (access to work-related information) to better capture how this spatial characteristic of the open office affects innovative work behavior (i.e., idea sharing and idea implementation). We hypothesize that access to information (workplace transparency) about other worker's presence, behavior, expertise, and responsibilities is central to worker's idea sharing (interactions to exchange ideas) and idea implementation (transformation of abstract ideas into actions). We further investigate the moderating role of workplace flexibility on this link. We tested our hypotheses in a survey study of 368 respondents at a Dutch construction company which had implemented open-plan office in combination with a workplace flexibility policy. As expected, transparency was positively associated with idea sharing, but transparency contributed to innovative work behavior only when workplace flexibility was low.

I wrote this paper together with Evgenia I. Lysova and Svetlana N. Khapova. Earlier versions of this paper were accepted for presentation at AOM in 2019 (Boston, United States of America) and EAOHP in 2020 (Nicosia, Cyprus).

4.1 Introduction

Few people would deny that transparency is a very pronounced characteristic of contemporary open offices, yet thus far, research has treated transparency as mere context. Instead, the literature describes open offices (and other offices) along characteristics such as privacy and proximity (Khazanchi et al., 2018). This has resulted in contradicting findings and a discussion persisting for the last 30 years (Elsbach & Pratt, 2007). On the one hand, increased proximity (lack of spatial boundaries) within open offices facilitates employees to connect with each other (Agrawal et al., 2008; Festinger et al., 1963; Khazanchi et al., 2018; Sailer & Penn, 2009) and, in turn, interaction-based behaviors, such as knowledge sharing and collaboration, increase (Allen, 1977; Allen & Gerstberger, 1973). On the other hand, limited privacy and increased proximity – characteristic of open offices – have detrimental effects on communication (Bernstein & Turban, 2018; Khazanchi et al., 2018; Sundstrom et al., 1994), personal effectiveness (Vilnai-Yavetz et al., 2005) and satisfaction (e.g., Haapakangas et al., 2018). Others have frequently noted this disparity in results (e.g., Bernstein & Turban, 2018; Elsbach & Pratt, 2007; Zalesny & Farace, 1987), yet hardly any studies managed to find a suitable explanation for it.

In an attempt to address this disparity, we propose that research needs to draw on the concept of *transparency* as a spatial characteristic of open offices to better capture its potentially positive impact on employee behaviors. Transparency refers to access to information (Bernstein, 2017; Castilla, 2015; Rosenfeld & Denice, 2015), for example, about coworkers. We conceptualize workplace transparency as a spatial characteristic of open offices, which consists of the subdimensions visual and task transparency. Even though the idea that transparency affects people's behavior is not new, little research exists operationalizing and measuring transparency (Bernstein, 2017).

Furthermore, as companies rely on innovation for their success (Martins & Terblanche, 2003; Pisano, 2015), we need to understand the impact of workplaces on innovative behaviors (Oksanen & Ståhle, 2013). We

see workplace transparency as being central to two innovative behaviors: employees' *idea sharing* (interactions to exchange ideas) and *idea implementation* (transformation of abstract ideas into actions) (Van de Ven, 1986). We argue that access to information about other's presence, expertise, and responsibilities will affect how often an employee seeks out another (Borgatti & Cross, 2003), in particular, to share and to implement ideas.

What is more, we need to consider the conditions under which the open office characteristic transparency relates to idea sharing and idea implementation. Companies often implement open offices in combination with workplace flexibility policies, yet they are studied separately in the literature (e.g., Boell et al., 2016; Haapakangas et al., 2018; Maher & von Hippel, 2005; Rockmann & Pratt, 2015). While we have a good understanding of how workplace flexibility affects individual and team outcomes (Gajendran & Harrison, 2007; Hertel et al., 2005), it is unclear how workplace flexibility interacts with spatial characteristics of where we work, such as the transparency of open offices. Based on the proximity principle (i.e., physical closeness increases encounters), we argue that workplace flexibility moderates the relationships of workplace transparency with idea sharing and idea implementation, such that it weakens these relationships.

Taken together, the importance of the physical (work) environment for employee behavior is generally recognized (Davis et al., 2011; Davis, 1984; Elsbach & Pratt, 2007), but it is still unclear how spatial characteristics impact innovative work behaviors (Oksanen & Ståhle, 2013). Also, the current separation of open offices and workplace flexibility in previous studies represents a disparity with organizational practice (Messenger & Gschwind, 2016). To address the above concerns, we set out to study the following research question: *What is the impact of perceived workplace transparency on employees' idea sharing and idea implementation? And to what degree does workplace flexibility influence this relationship?* To do so, we collected survey data at a Dutch building company (BuildCo) which had transitioned from enclosed, cell offices to an open office layout and implemented a policy enabling employees to conduct work from home.

With this study, we contribute to the literature on the physical environment of organizations, specifically about the workplace characteristic transparency and its effect on innovative employee behaviors. First, we conceptualize transparency as a characteristic of open offices and extend previous research on workplaces, which has treated transparency as the context (e.g., Bernstein & Turban, 2018; Oldham & Brass, 1979; Zalesny & Farace, 1987). Second, we take the first step towards a measure of workplace transparency, while so far, transparency has rarely been measured (Bernstein, 2017). Lastly, we demonstrate the moderating role of workplace flexibility for these relationships, extending our understanding of how new ways of working interact with each other.

In the rest of this paper, we start by giving a brief overview of recent work on transparency in open offices and workplace flexibility that provides a starting point for our analysis. We then outline the methodology for gathering and analyzing data on the variables at BuildCo. Following this, we provide the results of our statistical analysis, where we tested the relationship between workplace transparency and innovative behaviors with workplace flexibility as a moderator. Finally, we discuss the findings and directions for future research.

4.2 Theory and hypotheses

4.2.1 Workplace transparency

An *open office* is an office that lacks dividing boundaries, such as walls or partitions, are large rooms containing a great number of workers, often with individual workstation groups (Brennan et al., 2002; Brunia et al., 2016). Typically, the literature describes offices based on the characteristics of proximity, workplace assignment, privacy, and crowding when studying their effect on employee behavior (Elsbach & Pratt, 2007; Khazanchi et al., 2018). However, transparency is an important yet understudied characteristic of workplaces. Transparency is defined as access to information (Castilla, 2015; Rosenfeld & Denice, 2015). To understand why

workplace transparency is crucial for studying open offices, we need to briefly revisit one of the aforementioned traditional characteristics of office: *privacy,* which is an "employees' ability to control or regulate the boundary between self and others and, hence, others' access to self, and vice versa" (Khazanchi et al., 2018, p. 594). Privacy and transparency are intimately connected and are "commonly experienced as a compromise or even violation of the other" (Bernstein, 2017, p. 220). For example, when an office is high in workplace transparency (i.e., by removing walls), it is usually low in privacy (i.e., no or little control over others' access to oneself). Despite their relationship, privacy and transparency represent two fundamentally different perspectives. Particularly, privacy represents the perspective of the one *being observed*. In contrast, workplace transparency represents the perspective of the one *observing*[4]. This is a crucial difference because one can ask the same question from both standpoints yet will receive different answers. Therefore, workplace transparency – access to information (Castilla, 2015; Rosenfeld & Denice, 2015) – offers a way to capture the positive potential of open workplaces and thereby offers a different perspective on the contradictory findings.

4.2.2 Workplace transparency, idea sharing, and idea implementation

In today's economy, innovation plays a vital role in a company's success (Martins & Terblanche, 2003; Pisano, 2015) as well as in the maintenance and improvement of its functioning (Amabile et al., 2005; Janssen, 2000; Kanter, 1988; Van de Ven, 1986). This is particularly relevant as organizations adapt to the growing interrelatedness of our jobs (Khazanchi et al., 2018) and dynamics in the organization's environment (Grant & Parker, 2009). Many new ways of working, such as open offices

[4] It is necessary to note here that transparency is not equivalent to surveillance, the latter of which refers to the "constant, close and comprehensive supervision by managers" (Bernstein, 2017, p. 218). Instead, we focus on employees' perceptions; thus, it is more similar to the non-hierarchical observation that provides visual information

characterized by high transparency, are implemented to foster innovative work behaviors (Moll & de Leede, 2016; Moultrie et al., 2007). So far, we do not know how the characteristic of transparency impacts innovative employee behaviors. We argue that access to visual and task information about coworkers and their behavior (workplace transparency) is critical to employee's innovative behaviors of *idea sharing* (i.e., interactions to exchange ideas) and *idea implementation* (i.e., transformation of abstract ideas into actions; Van de Ven, 1986). We distinguish between these two behaviors because not all ideas that are shared are necessarily implemented. However, we believe that workplace transparency impacts both behaviors because they rely on employees connecting effectively based on information they have about their coworkers. In the paragraphs below, we discuss how previous studies inform our current understanding of the impact that workplace transparency has on the two innovative behaviors.

Regarding employees' idea sharing behavior, we can draw on previous research showing that office characteristics affect interactions. For example, the communication duration was lower in multi-room offices, but the communication frequency higher (e.g., Boutellier et al., 2008). Also, the change from freestanding desks to partially enclosed workplaces affected the type of content that employees discussed (Carlopio & Gardner, 1992; Sundstrom et al., 1982). Specifically, studies indicate that confidential conversations can be hindered by transparent places (Carlopio & Gardner, 1992; Sundstrom et al., 1982), while work-related, and discretionary interactions (Boutellier et al., 2008) – such as idea sharing – are facilitated. Typically, this positive impact is attributed to either increased physical proximity or increased privacy (Boutellier et al., 2008; Carlopio & Gardner, 1992; Sundstrom, 1986). However, workplace transparency for the observing party means increased access to visual and task information about colleagues and their behavior. Specifically, access to information about coworkers' presence and events as well as more information about their responsibilities and expertise. Such access to information affects how often someone seeks out another person (Borgatti & Cross, 2003) and

shares unique information (Stasser & Birchmeier, 2003) such as ideas. Hence, we hypothesize that workplace transparency will affect the amount of idea sharing positively:

H1. *Workplace transparency will be positively related to idea sharing.*

Besides sharing ideas with coworkers, it is also crucial for companies that employees implement ideas in order to remain successful (Martins & Terblanche, 2003; Pisano, 2015). We conceptualize idea implementation based on a subset of the broader innovative work behaviors by Scott and Bruce (1994), such that idea implementation concerns promoting ideas, securing the necessary resources, and developing plans to transform abstract ideas into actions. To implement ideas, employees need to have information that is not limited to formal roles but also about, amongst others, who is responsible for budgets, most capable of championing ideas, and in which projects they are involved. Workplace transparency means to have access to information on top of what is known through an organization's formal structure. Formal structures define responsibilities of a particular role, whereas informal structures develop around, amongst others, physical locations (Scott, 1961). Studies have shown that informal and formal structures can but do not necessarily have to overlap (Gulati & Puranam, 2009). Thus, the open office characteristic transparency means that employees have more access to visual and task information. In highly transparent offices, employees can observe the interactions and behaviors that take place (informal) in addition to those that should take place (formal). Thereby, employees are better able to develop plans to make their idea actionable based on the knowledge of others' responsibilities and when to talk to them. Hence, similar to idea sharing, we argue that access to information, in other words, visual and task transparency, increases employee's idea implementing behavior:

H2. *Workplace transparency will be positively related to idea implementation.*

4.2.3 The moderating role of workplace flexibility

Workplace flexibility is defined as the ability to work flexibly between physically distant, alternative locations (based on MacDuffie, 2007). Working across multiple workplaces has become more common as working is not constrained to "permanent and fixed locations" anymore (Hislop & Axtell, 2009, p. 60). Alternative locations include, but are not limited to, the home, cafés, and public places (Ashford et al., 2007; Bailey & Kurland, 2002; Boell et al., 2016). Workplace flexibility serves as a way for the workforce to cope with the decreased amount of available seating in open offices, which have the goal to reduce facility costs (Lee & Brand, 2005). For employees, it offers flexibility to manage work-life demands better (Harpaz, 2002; Rockmann & Pratt, 2015) or get more work done (Bailey & Kurland, 2002; Rockmann & Pratt, 2015). Also, in some cases, employees work more outside of the office because too few employees remained in the office that coming to the office was not perceived as beneficial anymore (Rockmann & Pratt, 2015). Previous research established that workplace flexibility has an impact on individual and collective outcomes (Gajendran & Harrison, 2007; Hertel et al., 2005). For example, several studies indicated that the degree of co-location in teams has a profound impact on interaction frequency (Bailey & Kurland, 2002; MacDuffie, 2007; Rockmann & Pratt, 2015), collaboration (Kiesler & Cummings, 2002), and awareness of coworker's roles and responsibilities (Hinds & Cramton, 2014). Also, workplace flexibility policies may be similar across companies, but it is the variety in how much employees make use of such policies (MacDuffie, 2007) that has an impact on the relationship between workplace transparency and idea sharing and implementation. Thereby, we agree with O'Leary and Cummings' (2007) argument that it is not a dichotomous relationship between being close and being remote to your colleagues but rather a matter of degree.

The principle that informs our hypothesizing about the moderating role of workplace flexibility in the relationship between workplace transparency and employee behavior is the propinquity principle. The propinquity principle states that when people are close, there are more

opportunities to encounter each other and interact (Khazanchi et al., 2018). This principle has been well established in studies within and beyond the office context. For example, when moving from traditional cell offices to multi-room or open offices (and hence being closer to each other), employees interacted almost three times more in the new location (Boutellier et al., 2008). Also, when employees were more than 18 meters apart from each other, they interacted less with each other (Sailer & Penn, 2009). In turn, bringing employees closer increases the frequency of face-to-face (Sailer & Penn, 2009) and the exchange of work-related information (Boutellier et al., 2008), such as ideas. There is also evidence that the principle holds at a bigger scale beyond one office location, such that Agrawal, Kapur, and McHale (2008) demonstrated that co-location increased the knowledge flow between inventors by 24% amongst Indian innovators in the US. These examples indicate that the degree of geographical closeness between colleagues affects their interactions.

Drawing on previous research on workplace flexibility, we argue that employees sharing a place (low workplace flexibility) are more likely to interact with their colleagues for idea sharing and implementation. This is because they have more opportunities to do so (Boutellier et al., 2008), for example, by crossing each other's path intentionally and by chance. When employees have access to information about their coworkers (behavior, presence, and expertise) (i.e., workplace transparency), physically crossing paths (low workplace flexibility) makes them more likely to use this information and interact with their coworkers (Borgatti & Cross, 2003) for idea sharing and idea implementation. Thus, low workplace flexibility should strengthen the impact of transparency on innovative behaviors. In contrast, employees with high workplace flexibility simply cannot benefit from access to information (workplace transparency). Mainly this is because employees spend less time geographically close, thereby reducing the opportunities to engage with colleagues and act upon information towards idea sharing and implementation. In other words, the degree of workplace flexibility is likely to moderate the relationship between workplace transparency and idea sharing, idea implementation respectively. This leads

us to propose the following hypotheses:

H3. *Workplace flexibility will moderate the relationship between workplace transparency and idea sharing, such that the relation is stronger when workplace flexibility is lower (versus higher).*

H4. *Workplace flexibility will moderate the relationship between workplace transparency and idea implementation, such that the relation is stronger when workplace flexibility is lower (versus higher).*

As the model in Figure 4.1 summarizes, we test whether workplace transparency impacts the outcomes of idea sharing and implementation, and whether workplace flexibility has a moderating role.

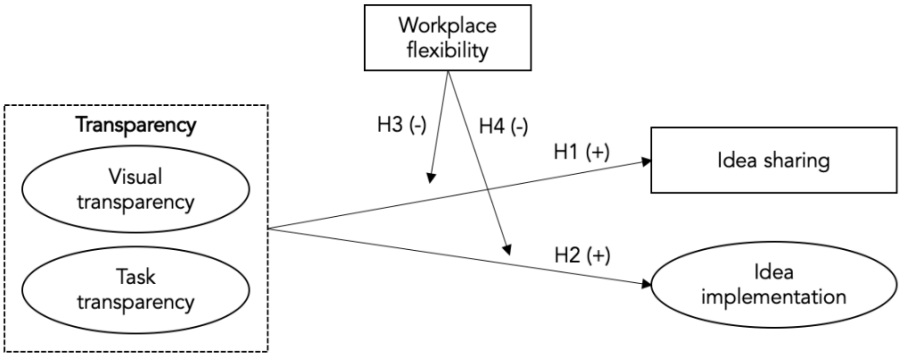


Figure 4.1 Hypothesized moderation model

4.3 Data and methodology

4.3.1 Sample and procedure

The data for this study was collected using an online questionnaire aimed at employees at a Dutch construction firm (BuildCo) with branches across the Netherlands. We chose BuildCo because they transitioned from

traditional, closed offices to an open office (a transparency-creating change to the physical setup) as well as a new policy enabling employees to conduct work from home. The policy enabled employees to choose their work locations (including working from home). A research assistant working in the company approached the HR manager to discuss BuildCo's participation in our research study. Then, a draft of the survey was sent to the HR manager to ensure that it would comply with their privacy regulations. After approval by BuildCo's management, we agreed that all employees would receive the questionnaire via email from our contact person at BuildCo. The email to the employees stated the purpose (studying the new offices), a guarantee of confidentiality (Podsakoff et al., 2003), and an anonymized link.

The survey was sent to 2363 employees across four BuildCo locations, from whom we received 1068 responses. After deleting incomplete responses and no variance responses, we had a final sample of 368 respondents (usable response rate: 15.6%). The sample consisted of 75% male respondents, which is representative of the construction company. On average, our participants were 36.3 years (SD = 10.81), worked 44.3 (SD = 7.74) hours per week, and 83.7% had a full-time contract.

4.3.2 Measures

The workplace transparency and idea implementation scales were measured on the 5-point Likert scale, with 1 (completely disagree) to 5 (completely agree), whereas workplace flexibility and idea sharing were measured as count variables. To provide the survey to the respondents in their native language (Dutch), all items were translated from English to Dutch by a native speaker (research assistant), then double-checked and translated back by the principal researcher. Also, our contact person at the company read the questions to ensure readability, as well as to remove any technical jargon and unfamiliar words (Peterson, 2000).

Transparency (WTRANS) measures are scarce because transparency is often considered an "elusive" concept (Bernstein, 2017, p.

230). Since a literature search did not provide us with a relevant measure for visual or task transparency (to the best of our knowledge), the research team decided to develop a measure for workplace transparency. First, we generated a pool of five items for each subdimension drawing on the concept of transparency (Bernstein, 2017; Castilla, 2015). Example items were: "I can see when colleagues are present" (*Visual transparency*) or "I am aware of my colleagues' expertise" (*Task transparency*). The items were discussed within the research team, who are experts on the topic to ensure that the items adequately reflected each concept. We also discussed the formulation with a research assistant to reduce item complexity and ambiguity that can arise from double-barreled questions (Hinkin, 1995). This led us to modify two items as they were ambiguously formulated. In the end, we used a 10-item scale (Table 4.1). The construct validation process described hereafter indicated that the workplace transparency scale should be treated as an aggregate variable in the analysis.

We conducted a Confirmatory factor analysis (CFA) to check the validity of the newly-developed scale (correlations in Table 4.2). We evaluated the fit based on the chi-square statistic (χ^2), the Comparative Fit Index (CFI), Tucker-Lewis index (TLI), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), and AIC. A model was accepted as adequate when the RMSEA was > 0.06 to ≤0.08 (Browne & Cudeck, 1989), an SRMR of < .08 (Hu & Bentler, 1999) and a GFI of at least .90 (Bentler, 1990). First, a CFA with all indicators under one factor (M1) because it was a new scale. However, the model had a poor fit (χ^2 (25) = 124.319, p < .001, CFI = 0.901, TLI = 0.858, RMSEA = 0.104 [0.086; 0.123], SRMR = 0.067, AIC = 164.319). Second, we ran a CFA with two covariates VISU and TASK (M2) and it had a slightly fit (χ^2 (34) = 105.059, p < .001, CFI = 0.932, TLI = 0.910, RMSEA = 0.075 [0.059, 0.092], SRMR = 0.051, AIC = 147.059). Third, the results showed that the model with a second-order transparency latent variable (with covariates VISU and TASK; M3) had good fit (χ^2 (33) = 88.026, p < .001, CFI = 0.948, TLI = 0.928, RMSEA = 0.067 [0.051, 0.085], SRMR = 0.047, AIC = 132.026), with the factor loadings being between .51 and .75, with one exception of one item (VISU1)

Table 4.1 Workplace transparency items

Topic	Items	Answer scale
Visual transparency	I can see what everyone does. I can see what takes place in the meeting rooms. I can see when colleagues meet each other. I can see when colleagues are present. I can see when something special happens.	1 (completely disagree) to 5 (completely agree)
Task transparency	I'm aware what everyone is working on. I'm aware about the ongoing projects. I'm aware about my colleagues' responsibilities. I'm aware of my colleagues' expertise. I'm aware whose workload is high.	1 (completely disagree) to 5 (completely agree)

with a loading of .35. This factor solution included the correlations between errors of TASK3 and TASK4 as their content could be perceived as similar (expertise and responsibility). We followed the individual CFA's up by comparisons between the model with the following results: M1 versus M2 ($\Delta\chi^2$ (9) = 19.260 p = .024), M2 versus M3 ($\Delta\chi^2$ (1) = 17.033 p < .001), M1 versus M3 ($\Delta\chi^2$ (6) = 36.293 p < .001). Thus, all models are significantly different from each other. Based on the fit indices indicating that M3 (second-order with covariates) has the best fit and the high correlation between task and visual transparency (r = .755, p < .01), we decided that we proceed with an aggregated score of workplace transparency.

Workplace flexibility (WFLEX) was measured by asking respondents to answer the following question: "For Monday through Sunday, which days to you typically work remotely?". They were presented with a list of the answer possibilities of each weekday. Since BuildCo only operated Monday through Friday, we calculated the sum of remote workdays only based on working days, thus creating a count variable. A higher value of this variable indicated greater use of the workplace flexibility policy. Thereby, we capture workplace flexibility as a degree rather than a dichotomous representation (O'Leary & Cummings, 2007).

Idea sharing (IDS) was measured with a single item ("In a normal

week, I go to this colleague when I have an idea") based on (Parise, 2007). Based on the participant's self-reported organizational affiliation, the participants selected the specific colleagues from a complete list of employees of their department. We then calculated the sum of outgoing interactions that employees had, hence creating a count variable. While we did not alter the variable itself, we took the participants' opportunity for the event (idea sharing interaction) to occur into account in the analysis in the form of an offset variable (actual weekly work hours). We chose self-reported data for several arguments. First, what a worker reports as innovative work behavior may be based on more complete information (e.g., history, context, intention) than is accessible to the supervisor. Thus, employees' awareness of these situational and more subtle influences makes employees particularly suited to self-report data (Shalley et al., 2009) and more likely to be a more precise depiction than by a supervisor. Also, previous studies have found that self-reported measures of innovation correlate with supervisor ratings (Axtell et al., 2000).

Idea implementation (IDI) was measured with three items from the Innovative Work Behavior scale (Scott & Bruce, 1994), e.g., "I investigate and secure funds needed to implement new ideas". The scale's internal reliability was beyond the necessary threshold of .70 (Nunnally, 1967): α_{IMP} = .78.

Control variables. We controlled for gender (0 = female, 1 = male), level of education (1 = elementary school to 6 = university degree), tenure, work hours and role (1 = employee, 2 = middle management, 3 = executive level). Gender was included to account for the skewed (though representative) male-female distribution in the sample; level of education was included as a standard control variable; tenure has been found to affect employee's communication (Zenger & Lawrence, 1989); amount of work hours was required to be included as an exposure variable in the model for idea sharing and thus also in the model for idea implementation as a control variable; role needed to be accounted for as it represents discretionary power of employees and their centrality in an organization (Lincoln & Miller, 1979).

4.3.3 Common method variance

With self-report data, method variance may occur. Therefore, we followed several of Podsakoff's (2003) procedural remedies to counteract them. We also conducted a Harman single-factor test to determine the extent of method variance in the data. These results indicate that one factor explained 33.53%, thereby being far under the problematic threshold of 50%. This indicated that common method is unlikely to be a serious issue.

4.3.4 Data analysis

We approached the analysis in two steps. First, we used SPSS AMOS 24 to ensure the fit of the two measurement models by conducting two CFA's, one for each dependent variable. We evaluated each model based on the parameters stated earlier). In each model, we included the respective dependent variable, as well as workplace transparency and workplace flexibility. While idea sharing and workplace flexibility were included as manifest variables (both count variables), idea implementation and workplace transparency were treated as latent variables (for details, see CFA of workplace transparency above). The idea implementation scale consisted of three items, thus it was by definition a just-identified model irrespective of the loading patterns (Malhotra & Sharma, 2008), and fit indices were not available.

Second, we used the statistical analysis software IBM SPSS Statistics 25. For the hypothesized model for the count variable idea sharing, initial analysis indicated that a negative binomial (NB) distribution with a log link was a better fit than the Poisson loglinear because NB does not assume equal mean and variance. We further added an exposure variable (sometimes also called offset; actual weekly work hours), which is common when analyzing count variables to adjust for the possibility of an event occurring. Furthermore, the negative binomial distribution required an estimation of the dispersion, for which we used the conservative estimate of the built-in function. For idea implementation as a dependent variable, we used a linear regression analysis.

Table 4.2 Descriptives and correlations

	M	*SD*	1	2	3	4	5	6	7	8	9	10
1. Gender	0.75	0.44	-									
2. Education	3.92	1.09	.01	-								
3. Tenure	21.50	11.42	.14**	-.43**	-							
4. Work hours	39.22	3.92	.46**	.08	.03	-						
5. Role	1.45	0.75	.27**	.17**	.09	.40**	-					
6. WTRANS	2.21	0.43	-.04	.04	-.05	.08	.07	-				
7. TVISU	2.42	0.48	-.05	.04	-.05	.05	.06	.99**	-			
8. TTASK	3.04	0.66	.03	.02	-.03	.18**	.06	.83**	.76**	-		
9. WFLEX	1.71	1.57	.22**	-.04	-.03	.17**	.18**	.02	.02	.01	-	
10. IDS	1.21	2.71	.02	.02	-.00	.08	.01	.18**	.17**	.20**	.03	-
11. IDI	2.10	0.45	.08	.20**	-.10	.19**	.27**	.10*	.08	.12*	.01	.11*

Note: * $p < .05$, ** $p < .01$. N = 368. Gender (0 = female, 1 = male). Education (1 = elementary school to 7 = master's degree). Tenure (in years). Role (1 = employee, 2 = middle management, 3 = executive level). WTRANS = workplace transparency. TVISU = visual transparency. TTASK = task transparency. WFLEX = workplace flexibility. IDS = idea sharing. IDI = idea implementation.

4.4 Results

4.4.1 Determining model fit

Due to the different distributions of the two dependent variables, we tested the measurement models separately. The measurement model for idea sharing (M4) included workplace transparency and idea sharing, as well as the manifest variable workplace flexibility. It yielded a good fit, χ^2 (51) = 108.432, p < .001, CFI = 0.946, TLI = 0.930, RMSEA = 0.055 [0.041; 0.070], SRMR = 0.045, AIC = 162.432. The measurement model for idea implementation (M5) also fit the data well, χ^2 (73) = 142.281, p < .001, CFI = 0.950, TLI = 0.938, RMSEA = 0.051 [0.038; 0.063], SRMR = 0.049, AIC = 206.281.

4.4.2 Descriptive statistics

The means, standard deviations, and correlations between study variables are presented in Table 4.2. An initial inspection of the significant correlations indicated no extremely high correlations (all between *r* = -.43 to *r* = .46) with the exception of the transparency subdimensions ($r_{\text{VISU, TASK}}$

= .76). There were no significant correlations of the control variables with idea sharing. For idea implementation, there were low correlations with gender, work hours, and role.

4.4.3 Hypothesis testing

In H1, we argued for the positive direct relationship between workplace transparency and idea sharing (Table 4.3). We found support for this hypothesis (B = 0.399, $p < .001$). In H3, we hypothesized that high workplace flexibility would weaken the positive relationship between workplace transparency and idea sharing. In support of H3, we found a significant, negative interaction between transparency and workplace flexibility (B = -0.261, $p < .01$) in relation to idea sharing. All results can be found in Table 3. The incidence rate ratio for workplace transparency (1.538 [1.285, 1.841]) suggests that idea sharing increased by approximately 54% with every unit increase in workplace transparency. However, the IRR for the higher order interaction term indicates a 23% decrease of idea sharing with every increase of the interaction.

Figure 4.2 shows the relation between task workplace transparency and idea sharing at low and high levels of workplace flexibility (*note*: negative binomial distribution). Further analysis of the difference between the slopes indicated that only under conditions of low workplace flexibility, the slope was significantly different from other slopes (Table 4.4). This suggests that the relationship between transparency and idea sharing was more positive under low workplace flexibility than under high workplace flexibility. These results thus support our hypothesis that transparency is positively associated with idea sharing when workplace flexibility is low.

Regarding idea implementation, we did not find support for H2, where we hypothesized that workplace transparency relates positively to idea implementation (B = 0.035, $p = .13$). The interaction between the moderator and workplace transparency was not significant (B = 0.042, $p = .07$). Figure 4.3 provides a summary of our findings.

Table 4.3 Results of GLM and regressions

Step	Variable	Idea sharing (M4) [a]		Idea implementation (M5) [b]	
		Exp (B)	[95% CI]	B	(SE)
1	Intercept	0.026***	[0.013, 0.053]	1.440***	(0.150)
	WTRANS	1.491***	[1.247, 1.782]	0.035	(0.022)
	Education	0.984	[0.829, 1.166]	0.065**	(0.021)
	Role	1.037	[0.844, 1.273]	0.123***	(0.033)
	Work hours	(Included as offset[c])		0.005	(0.003)
				R^2 change = 0.110***	
2	Intercept	0.023***	[0.019, 0.047]	1.467***	(0.152)
	WTRANS	1.538***	[1.285, 1.841]	0.037	(0.022)
	WFLEX	1.101	[0.922, 1.314]	-0.023	(0.023)
	Interaction	0.770**	[0.648, 0.916]	0.042	(0.023)
	Education	1.007	[0.846, 1.198]	0.062**	(0.021)
	Role	1.041	[0.843, 1.286]	0.129***	(0.033)
	Work hours	(Included as offset[c])		0.004	(0.003)
				R^2 change = 0.010	

Note. * $p < .05$, ** $p < .01$. *** $p < .001$. N = 368. WTRANS = transparency; WFLEX = workplace flexibility; Education (1 = elementary school to 7 = master's degree). Role (1 = employee, 2 = middle management, 3 = executive level). Interaction = WTRANS x WFLEX.

[a] Results are reported as log likelihoods (Negative binomial model). Also, (Pseudo) R^2 are traditionally not discussed for generalized linear model (McCullagh & Nelder, 1989).

[b] Values are unstandardized regression coefficients (standard error estimates are listed in parentheses). All lower-order terms used in interactions were standardized prior to analysis.

[c] In the model with idea sharing as a DV, work hours were used as an offset (exposure) variable for this negative binomial model, therefore there is no coefficient.

Table 4.4 Conditional effects of transparency on idea sharing

Workplace flexibility	Workplace transparency		
	Exp (B)	***p***	**95% CI**
One *SD* below mean	1.997	.000	1.532, 2.602
At the mean	1.538	.000	1.285, 1.841
One *SD* above mean	1.185	.154	0.938, 1.495

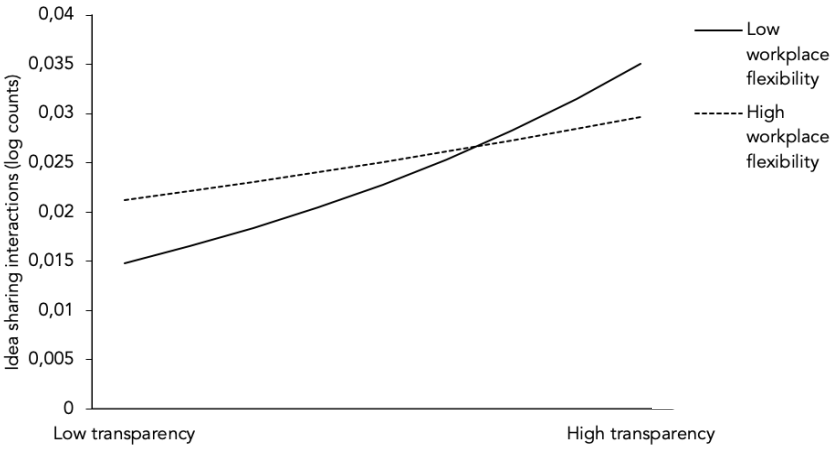
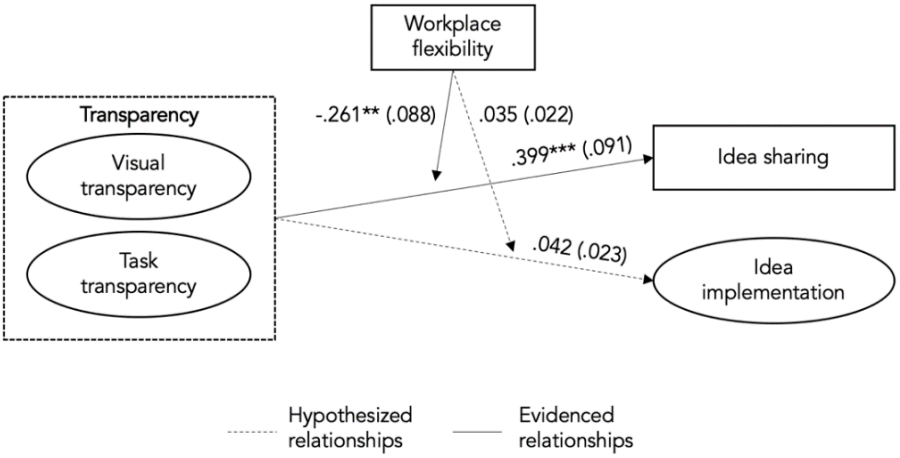


Figure 4.2 Interaction plot



Note. Results for idea sharing are reported as log likelihoods (negative binomial model) with 95% CI in parantheses. Results for idea implementation are reported as unstandardized regression coefficients with standard errors in parantheses.

Figure 4.3 Results moderation model

4.5 Discussion

We set out to investigate the impact of workplace transparency on employee's idea sharing and idea implementation and how these relationships are moderated by workplace flexibility. We argued that in order to share and implement ideas, employees access information about their coworkers (workplace transparency), such as when they are present and what their responsibilities are. We proposed that the characteristic workplace transparency – access to visual and work-related information – would positively influence the number of ideas shared as well as how much an employee implemented ideas. We also hypothesized that these relationships are moderated by workplace flexibility, such that high levels of flexibility weaken the relationship between workplace transparency and idea sharing as well as idea implementation. We found partial support for our hypotheses. Our study indicates a (a) positive relationship of workplace transparency with idea sharing, and (b) a dampening effect of workplace flexibility on this relationship for idea sharing. Specifically, our results show that employees with high workplace transparency shared more ideas when workplace flexibility was low, and the relationship was also stronger for those with low workplace flexibility.

4.5.1 Theoretical contributions

Our contributions to the literature on workplaces and employee behavior are threefold. First, we extend the literature on open office characteristics by considering the observer's perspective of increased access to information (transparency) instead of the observed's perspective of decreased privacy. While we had learned a lot from previous studies about employee behaviors in open offices from the perspective of those being observed (Khazanchi et al., 2018; Sundstrom et al., 1980; Vischer, 2011), little was known about employee behaviors from the perspective of the ones who are observing. Also, by conceptualizing transparency as a workplace characteristic of open offices, we addressed the shortcoming that the potential impact of transparency on worker behaviors had been

masked by treating transparency only as the context (e.g., Bernstein & Turban, 2018; Oldham & Brass, 1979; Zalesny & Farace, 1987). Furthermore, previous studies (from perspective of the observed) have resulted in contradictory findings about how characteristics of open offices increase interaction, knowledge flow and collaboration (Allen, 1977; Bailey & Kurland, 2002; Khazanchi et al., 2018; Parrino, 2015; Rockmann & Pratt, 2015) or hinder them (Bernstein & Turban, 2018; Haapakangas et al., 2018; Hua et al., 2010; Khazanchi et al., 2018; Vilnai-Yavetz et al., 2005). Our study showed that transparency of open offices was positively related to how often employees shared their ideas with others. Thus, we offer an alternative, positive perspective on the impact of open offices on employee behaviors.

In contrast, we did not find the hypothesized relationship of workplace transparency on idea implementation (and in extension, we also did not find interaction effect for workplace flexibility). One possible line of thought following this finding may be that there is, indeed, no direct effect present. It is also conceivable that the nature of employee behavior plays an important role when it comes to workplace flexibility (Boell et al., 2016). Idea implementation may require more than information about opportunities and responsibilities to take place. Furthermore, the size and reach of an employee's network could represent a potential mediation mechanism. Upcoming studies could, for example, adopt a network analysis design to study how ideas spread through a network and who has the shortest paths to reach idea implementation.

Second, we give an impetus to research on workplace transparency by taking a first step towards operationalizing this "elusive" concept (Bernstein, 2017, p. 229), which has rarely been done until now (Bernstein, 2017). We initially conceptualized the workplace characteristic of transparency as two subdimensions based on earlier research into open offices (Oldham & Brass, 1979; Zalesny & Farace, 1987). However, our analysis indicated that it was one latent concept. Future studies could concern further distinguishing between subdimensions of workplace transparency, for example, along how information is accessed (e.g., visual,

auditory, or procedural), as well as along the type of information employees can access (e.g., temporal, behavior, task). Regarding the latter, as the workplace is becoming more flexible and distributed (Schawbel, 2015), access to information when colleagues work (temporal transparency) and where they work (locational transparency) may prove relevant.

Lastly, we show how workplace transparency and flexibility interact, which is important because they are typically studied separately (see for example, Boell et al., 2016; Haapakangas et al., 2018; Maher & von Hippel, 2005; Rockmann & Pratt, 2015). We found a moderating role of workplace flexibility for idea sharing such that when employees were highly flexible in their work locations, the positive relationship between perceived access to information and how many ideas employees shared was weaker than when employees were spatially flexible. Thereby, we extend previous research, which focused on the sole effect of workplace flexibility on how familiar employees can become with each other and their work (Hinds & Kiesler, 2002), such as coworkers' role, interests, and capabilities (Hinds & Cramton, 2014). Nevertheless, our research also opens up avenues for future research. We used an objective measure for workplace flexibility (number of days working remotely), but employees may perceive the distance more subjectively (e.g., Wilson et al., 2008). Therefore, future research could focus on more subjective avenues by measuring how workplace flexibility is perceived by those engaging in it.

On a related note, another future study could be concerned with the role of impression management (Bernstein, 2017; Giacalone & Rosenfeld, 1989) in a transparent work setting. It is possible that employees use workplace transparency as a strategic resource by choosing to sit in more or less visible workplaces. Previous studies indicate that increased workplace transparency also leads to more impression management and similar behaviors (Giacalone & Rosenfeld, 1989). The latter stems from people's general desire for privacy, which means that workplace transparency may actually have the opposite effect than what was desired by creating open places. This 'transparency paradox' (Stohl et al., 2016) should be considered by including both workplace transparency and

privacy simultaneously in studies.

4.5.2 Limitations and future research

Our study is also subject to several limitations. First, given the cross-sectional data utilized in this paper, we cannot claim causality in this study and, therefore, variables may be reciprocally related. Future research should employ longitudinal and experimental designs to establish how workplace transparency influences idea sharing and implementation. Adjusting to changes in workplaces does not happen at one point in time but is a process like most change processes (Burnes, 2017), it would be an improvement to track data over time. Especially beneficial would be a situation where a pre- and a post-transformation measure were conducted to enable a comparison between the employee's perceptions of different types of workplaces. Also, we want to join the call for real-time data (Davis et al., 2011). While there is often an immediate impact from new work environments on employee behaviors, the effect will change as employees become familiar with the environment and either adapt how they work to the new environment, or they change the environment.

Second, the measures discussed are all self-reported measures. In our case, self-report measures were appropriate because we were concerned with the perceptions of employees and how these influenced idea sharing and implementation behavior. Employees' awareness of these situational and more subtle influences, makes employees particularly suited to self-report data (Shalley et al., 2009), and be based on more complete information (e.g., history, context, intention) than is accessible to the supervisor. Also, previous studies have found that self-reported measures of innovation correlate with supervisor ratings (Axtell et al., 2000). Nevertheless, a future study might want to use objectively gathered data (e.g., let colleagues rate employee behavior) or self-report measures combined with a tracking device that records meta-data of interactions between employees.

Third, few will argue against the statement that contemporary

workplaces are a combination of spatial and digital layers. While we developed the concept of workplace transparency within a spatial context, we believe there is merit to extend it to the digital layer in the future. Employees are often faced with variety of digital tools to access information about coworkers, projects or communication. To what extent employees perceive these tools as visually and task transparent – or in other words, how well they can access information about their work and coworkers – is likely to affect how well employees are able to collaborate.

Lastly, we only examined the role of workplace flexibility beyond the office. Other types of workplace flexibility may offer fruitful avenues for future research. Specifically, hot-desking or activity-based offices create flexibility within the office (Sivunen & Putnam, 2019). Also, other factors may be shaping the impact of workplace transparency on idea sharing and implementation. For example, how employees perceive proximity to their colleagues (Wilson et al., 2008) and how they cope with the distance to their colleagues (Cristea & Leonardi, 2019). Future studies could take this into account should take this into account and compare it to the objective distance.

4.5.3 Managerial implications

Office design is an issue where managers need to find a balance between different needs. Our research has shown that it is advisable to take transparency into account when designing open offices for innovative behaviors. This is because employees have more access to information about ongoing projects as well as their coworker's roles and expertise. In the office, a small office can be enclosed by walls that provide auditory privacy, but a glass wall on at least one side provides visual transparency (Paron-Wildes & Simoneaux, 2019). This facilitates that employees can act upon the visual cues of each other's presence. Furthermore, an open area in a more relaxed place, such as the kitchen, where employees can see and hear each other, can provide opportunities for idea sharing and implementation. These could be surrounded by one of the many sound-

absorbing furnishing options available as to create a separate, transparent area. However, in view of previous research, it is important to balance transparent areas with private areas that accommodate other types of work as previous research has shown (Bernstein & Turban, 2018; Fayard & Weeks, 2006; Sundstrom et al., 1980). And it is in the organization's and manager's responsibility to enquire what the needs are, preferably as a continuous process rather than episodic.

4.5.4 Conclusion

In conclusion, the current study provides insights into the relationship between workplace transparency and innovative work behaviors. We conceptualized workplace transparency; tested the link between workplace transparency and idea sharing, idea implementation respectively; and examined in how far workplace flexibility moderated this relationship. We discussed the findings in light of the current literature and provided several avenues for future research. As such, this study provides an alternative explanation for the disparity in results regarding the impact of open offices on worker behaviors(e.g., Bernstein & Turban, 2018; Elsbach & Pratt, 2007; Zalesny & Farace, 1987).

Acknowledgements

We would like to thank a Dutch construction company for approval and our research assistant for the support that we have received from them. Also, we gratefully acknowledge that this work is part of the research program New Ways of Working and Human Capital Development with number 409-13-212, which is (partly) financed by the Netherlands Organisation for Scientific Research (NWO). Moreover, we want to appreciate the in-depth reviews and helpful suggestion from the participants at the EM Lyon workshop in Chamonix in 2019. Finally, we thank Marleen Huysman for her comments.


coworking

5 GENERAL DISCUSSION

EVERYTHING FALLS INTO PLACE

”There is no real ending. It's just the place where you stop the story.”

- Frank Herbert

To return to the introductory discussion of the spatiality of work settings for digital workers, the studies in this dissertation urge scholars and practitioners to consider physical settings more prominently because they enable and hinder professionals in conducting their work. Thereby, I contribute to the broader conversation of understanding work in the digital age (Barley & Kunda, 2001; Colbert et al., 2016; Orlikowski, 2016) where digital knowledge workers are able to organize their work in a mobile and remote manner irrespective of a particular location (e.g., Aguinis & Lawal, 2013; Ashford et al., 2007; Barley et al., 2017; Colbert et al., 2016). Before I address the overarching research question, I provide a brief overview of the key findings from each empirical study. Now, in this last *chapter 5*, I will consider the overall implications for theory by consolidating the findings from the three empirical studies (see Table 5.1 and Table 5.2 for an overview). The aim is to broaden our understanding of how place matters in digital work and what the implications for theory and practice are.

5.1 Key findings and overall research question

Each study provides a different but complementary piece of the puzzle to explain the interaction between workers and their physical environments. I elaborate below on how each of the chapters helps to understand the physical places of digital work in general as well as the particular challenges associated with each degree of spatiality of

contemporary work settings. Specifically, in *chapter 2***,** I looked at the affordances in workplaces in a hyperspatial settings and analyzed how digital nomads enacted temporary workplaces despite high mobility. *Chapter 3* focused on the change of workplace configurations in a semispatial setting and reveals the negative implications of remoteness for peripheral work relationships. In *chapter 4,* I addressed the link between workplace transparency and innovative work behaviors in a sedentary setting and further tested the moderating influence of remote work on this relationship.

5.1.1 Hyperspatial setting: Achieving temporary stability by enacting affordances

I started my investigation of contemporary workplaces in the hyperspatial setting of digital nomads *(chapter 2*) where I concentrated on understanding how they deal with the challenge of *stability*. Stability of work settings, at least temporary, is necessary to effectively conduct focused work and connect socially. Utilizing interviews and observations, I studied nomadic workers and how they achieve temporary stability of workplaces while traveling. They choose a destination not based on business reasons but based on a search for adventure and freedom (Jarrahi et al., 2019; Reichenberger, 2017; Sutherland & Jarrahi, 2017). In this highly mobile and remote setting, I focused on the interaction between workers and their physical environments to conduct work.

Despite the continuous movement of workers within and between places, nomadic workers were able to cope with the challenge of stability of workplaces by *enacting affordances* that reflect how digital nomads interact with physical environments in nomadic work: malleability, privacy and instant sociality. While malleability is concerned with creating the essential physical and digital work environment, enacting privacy and instant sociality target specific aspects of workplaces (focused workplaces and social workplace, respectively). Based on these affordances, I then compared three typical places (coworking spaces, café and housing) to

showcase the differences in affordances.

Taken together, this study indicates that what constitutes a workplace is less about what the place is intended for but instead how the place is perceived to be used (even temporarily). Furthermore, the study suggests that we need to treat the concept of the workplace more broadly by understanding and classifying the physical places along their affordances rather than their predetermined purpose as a place (not)to conduct work. Similarly, the findings in *chapter 3* showed that what an individual or a collective workplace is, changes as employees collectively agreed to incorporate new places in their workplace configurations. An interesting endeavor for future research could be to study more in-depth how the workers' perception of a place matches or contradicts the existing norms in the place, and how they deal with such tensions in their interaction with the environment. Alternatively, my studies also provide a fruitful starting point to examine how workers define, at a collective level, what an acceptable workplace is. And in terms of testing this quantitatively, researchers might explore which personality types are best suited for working in hyperspatial settings and whether there is a link between the ability to deal with uncertainty and productivity in hyperspatial settings.

5.1.2 Semispatial setting: Coordination of people and places is necessary

After studying hyperspatial settings of freelancers and entrepreneurs, in *chapter 3*, I turned to semispatial settings which represents many contemporary organizational workplaces. This chapter shed light on how work relationships are maintained across multiple locations. The workplace is rarely one single location but more often consists of multiple locations, or a workplace configuration. Through interviews, videos and documents, I identify three dimensions of workplace configurations: shared centrality, locational transparency and negotiated legitimacy. I showed that by removing the co-located office from employee's workplace configurations, where they experience a change

along these dimensions. The change also acted as a catalysator for a typical challenge in semispatial settings where people have considerable freedom of movement: *coordination*. Specifically, it crystallized that employee's implicit understanding of work organization was disturbed as colleague's whereabouts were more opaque and new workplaces were incorporated into their repertory (e.g., coworking space).

When confronted with this change, they coped by *aligning people's presence* in digital and physical places. That is, for example, by turning typically dispersed places into co-located workplaces (e.g., home office for teamwork) and relying more strongly on recurring meetings in digital spaces. Similarly, the study in *chapter 4* demonstrated that being physically present in a place with others increases employee's idea sharing, which is important for knowledge workers. Overall, the findings indicate that workers interact with contemporary workplaces and see each workplace as an element of a bigger configuration across which people need to come together. In the future, scholars could turn their focus to the peripheral relationships that I found to be affected most strongly by the loss of a central office. In particular, while there is some research on avoiding serendipitous encounters (e.g., Irving et al., 2019), there is more research needed on the serendipitous encounters of coworkers who do not know each other yet – and what the implications are for individual and organizational outcomes. A social network perspective may offer insights into what the effect is of a change to a workplace configuration on relationship strength.

5.1.3 Sedentary setting: Transparency helps to share ideas in a shared office

From the focus on workers moving between different places, I turned to workers in a shared workplace in *chapter 4*. In the last empirical chapter, I tested whether the spatial characteristic workplace transparency relates to innovative worker behaviors of idea sharing and idea implementation. In doing so, I also took into account that workers can be remote to each other to varying degrees, as they work in a shared office, at

Table 5.1 Spatiality, challenge, findings and future research

Degree of spatiality	Key challenge
Hyperspatial	***Stability:*** to stay productive in a hyperspatial setting, workers need to deal with uncertainty. The continuous change in locations and people puts the worker in new spatial and social settings, which makes stability of work settings a challenge.
Semispatial	***Coordination***: in semispatial settings, people have considerable freedom of movement. The asynchronicity of people's movement creates the challenge to coordinate people across digital and physical places in order to maintain work relationships.
Sedentary	***Interaction***: *w*hile the physical environments are dynamic in semispatial and hyperspatial settings, they are stable in sedentary settings. The challenge here is to *interact effectively* with others to share and implement ideas. This is complicated by sometimes being remote from colleagues.

Findings	Future research
Workers create temporary stability of workplaces through *enacting affordances* rather than working in dedicated, stable places.	***Qualitative***: How do workers cope with tensions arising from potential conflicts? What role does collective agreement on a workplace play? ***Quantitative***: What personality traits are related to success in hyperspatial settings? What is the link between the ability to deal with uncertainty and productivity in hyperspatial settings?
By *aligning people's presence,* workers agree on where work takes places to enable encounters (in digital space and physical place).	***Qualitative***: What role do peripheral relationships play for knowledge work? How do workers turn peripheral relationships into valuable resources for work? ***Quantitative***: Taking a social network analysis approach, what is effect of a change to workplace configuration on the strength of relationships at work?
By *accessing information* in shared open offices, workers are able to share more ideas than without accessing information.	***Qualitative***: What (other) types of workplace flexibility play a role for idea sharing and implementation? ***Quantitative***: Taking a social network perspective, which office designs enable the shortest path towards idea sharing and implementation?

home, or a combination of both. The analysis of the survey data showed that accessing information about work and their colleagues (transparency) in the workplace enables workers to share more ideas but this effect was dampened by working remotely.

This indicates that workplace transparency plays a role in effective *interaction*, which I earlier described as the challenge in sedentary settings. Furthermore, the importance of a shared physical place for interaction is also reflected in the findings of *chapter 3* where worker's peripheral relationships suffered without it and workers reconfigured their workplace configurations to remedy this. Furthermore, the findings in the study on nomadic workers also emphasizes that despite working fully mobile and remote, they need to – temporarily – share a workplace with other workers in order to stay productive. Future research could zoom in and compare the effect of different office designs on idea sharing and implementation within a network.

5.2 Implications for research on workplaces

After zooming in on the key findings for each degree of spatiality of work settings separately, I consolidate the findings in the present section (for an overview see Table 5.2). I put forward three overall key implications for scholars who are studying the physical workplaces in digital work. The main research question, as stated in the introduction, is as follows:

What are the theoretical and practical implications of the physical workplace for digital workers?

Hereafter, I will discuss the contributions to theory and practice in detail.

5.2.1 The opportunity of a spatiality lens

Although the literature on the topic of digital work is growing (Barley et al., 2017; Colbert et al., 2016; Hinds & Kiesler, 2002; MacDuffie,

2007; Wilson et al., 2008), our understanding of what role the physical environment plays for individuals and their organizations remains incomplete. I argued earlier that a wealth of literature in the field of organization research has addressed the importance of the physical environment in organization and its implications workers (Ashkanasy et al., 2014; Davis et al., 2011; Davis, 1984; Elsbach, 2003; Weinfurtner & Seidl, 2019), yet this needs to be brought to the digital age. I extend the literature on digital work by showing that a spatiality perspective can help us to better understand digital work and how physical places can hinder or support individuals and organizations. Throughout this dissertation, I demonstrate the value of a spatiality lens in studies of digital work phenomena, such as digital nomads or mobile knowledge workers.

In *chapter 2,* my findings showed that the workers need to interact with the material environment in order to enable work and stay productive, yet work is often assumed to be organized location-independent through digital technology in hyperspatial settings. I argue that scholars – aiming to understand how work is changing as digital technologies enable professionals more to work independent of pre-defined locations (Colbert et al., 2016) – need to emphasize the role of place in digital work and examine the place-making activities. In *chapter 3,* I further showed how the spatial changes to the workplace configuration clearly impacted how digital workers organized for work to maintain their relationships. I concur with Liegl (2014) who found that the "guiding question … seems to be, "Where can I work best? … what seems to be a rhythmic interaction of workers with their work environment, where this environment might enable work … for a certain period of time, and then it is time to move on." (p. 178). This suggests that when studying knowledge workers without a designated place, we need not only take into account the digital space where digital workers dwell but also their physical place.

In sum, while much of the literature on the topic of digital work has treated the physical place rather implicitly but mainly through a focus on distance (Bailey & Kurland, 2002; Garrett & Danziger, 2007; MacDuffie, 2007; Rockmann & Pratt, 2015), I showed in my empirical chapters that it is

a valuable endeavor to a spatiality lens because place matters for how people conduct work. With this, I follow other management and organizational scholars (Ayoko & Ashkanasy, 2020; Davis et al., 2011; Elsbach & Pratt, 2007; Weinfurtner & Seidl, 2019), who argued that place and its role for work should be studied explicitly rather than implicitly, which is in line with the 'spatial turn' in organization studies (de Vaujany & Mitev, 2013; Van Marrewijk & Yanow, 2017; Weinfurtner & Seidl, 2019). For further research, I encourage scholars to employ the lens of spatiality in their studies of digital work. In particular, as the COVID-19 pandemic has shifted our perspective from remote work as a choice towards remote work as a default (Bernstein et al., 2020), the physical settings of work are changing for a wider range of white-collar workers. This provides an interesting avenue of research to study how the physical and the digital environment intertwine while working (Colbert et al., 2016).

5.2.2 The power of focusing on actions to define a workplace

Scholars may learn from this dissertation that a workplace can be defined by the actions taken there rather than a location's predetermined purpose. In different chapters of this dissertation, I showed that focusing on the activities conducted in a place helps us to better understand how workers perceive a place and what a workplace is for digital workers. In the study presented in *chapter 2*, I focused specifically on how workers interact with their physical environment to create temporary workplaces in a multitude of locations. By foregrounding the worker's interaction with (and thus actions in) the environment, I was able to move beyond the physical characteristics of dedicated workplaces, such as workplace assignment or privacy in offices (Khazanchi et al., 2018; Sundstrom et al., 1980), and observe that workers perceive material aspects of places and enact three affordances to create temporary workplaces. Also, I found that places like accommodations or coworking spaces presented different physical environments, yet they could offer workers the opportunity to enact the same affordances. Based on these findings, I argued that what constitutes a

workplace is less about what the place *is intended for* but rather how the place is *perceived to be used* and that as digital technologies enable continuously higher degree of flexibility and mobility (e.g., Aguinis & Lawal, 2013; Ashford et al., 2007; Colbert et al., 2016), the places of work will become even less clearly defined.

In *chapter 3*, I examined on what happens when the organization removes the central workplace from a worker's repertory of places. I observed that locations were turned from individual workplaces at home to a place where teams worked. Thus, similarly to the findings in the chapter before, workplaces were situated and were defined by the activities occurring in the location rather a predefined purpose. Additionally, by focusing on the overarching level of the workplace configuration, I also found that the concept of 'workplace' included multiple physical locations.

In sum, while much of the literature on the topic of workplaces has focused on single, designated workplaces (e.g., offices), I found in both *chapter 2* and *chapter 3* that there is value in defining a workplace through the actions taken in a location and the interaction between workers and the physical environment. This emphasizes that it is crucial to critically reflect on the assumptions about what a workplace is when studying them, especially as digital technologies continue to enable digital workers to choose where to work more flexibly. In line with that, it may be a valuable change to approach it as a verb rather than a noun, thus turning form workplace to workplac*ing*.

For future research, a key aspect to further study are the capabilities that worker and organizations need to engage in workplacing successfully in semi- and hyperspatial settings. Digital nomads are clearly part of a greater kinetic elite (Costas, 2013) who are pioneering hyperspatial settings and they can provide an example for employees whose work is also becoming increasingly autonomous (Mazmanian et al., 2013), distributed (Barley & Kunda, 2001; MacDuffie, 2007) and mobile (Johns & Gratton, 2013).

Table 5.2 Overview chapters, key findings and implications

Chapter and research question	Key findings
2. Moving between places *How are workplaces enacted in nomadic work?*	Affordances of nomadic work: malleability, privacy, and instant sociality Comparison of typical work locations in nomadic work based on affordances Place is in the foreground of organizing in location-independent work
3. Reconfiguring where work takes place *How do workplace configurations shape work relationships, and how do employees cope with changes to their workplace configurations?*	Dimensions of workplace configurations: shared centrality, locational transparency and negotiated legitimacy Differentiation between three relationship layers based on source of connection and intensity of involvement Configurations need agreed-upon centers to facilitate work relationships; employees cope with change through "reconfiguring"
4. Ideas in place *What is the impact of perceived workplace transparency on employees' idea sharing and idea implementation? And to what degree does workplace flexibility influence this relationship?*	Positive effect of workplace transparency on idea sharing but dampened by workplace flexibility Employees with high workplace transparency shared more ideas when workplace flexibility was low, and the relationship was stronger for those with low workplace flexibility

Response to overall research question	Practical implications
Workers enact affordances to achieve temporary stability of workplaces in hyperspatial settings	Nomadic work requires the realization that the spatial freedom means additional work regarding creating workplaces anywhere and ensuring a stable Wi-Fi connection, ability to identity the challenges and how to manage them
	A learning for organizations is that when providing employees with the freedom and technology to work 'anywhere' employees may also need support in identifying the challenges and the associated coping mechanisms
Workers align movement of people across physical and digital places to coordinate work	Employees in distributed work cannot depend on a shared office to facilitate encounters and organizations need to provide opportunities to maintain their mid-layer and peripheral relationships in other ways: by creating online spaces, using immersive technologies or facilitating face-to-face gatherings and site visits
Co-location enables relationships, especially for mid- and peripheral relationship layer	Crucial to facilitate chance encounters and replicate situational richness
Workers access information (transparency), which enables social interactions focused on sharing ideas.	Managers need to assess office space needs to accommodate them
	Advisable to take transparency into account when designing offices for innovative behaviors
	Important to balance transparent areas with private areas that accommodate other types of work as previous research has shown (Bernstein & Turban, 2018; Fayard & Weeks, 2006; Sundstrom et al., 1980)

Theoretical implications
In-depth account of how digital nomads enact affordances to solve challenges in organizing for nomadic work expands the understanding of this phenomenon and lays the groundwork for theorizing
Demonstrating that the concept workplace needs to be treated more flexibly and based on the actions, perceptions and intentions of workers
Boundary between work and life blurs as locations are assigned temporary purposes
Concept of workplace configurations helps to reflect more adequately the contemporary worker's repertory of locations
Explaining how a workplace change (adding or removing locations) affects work relationships, and how workers cope with such a change through reconfiguring the center of the workplace configuration
Layered notion of relationships allows to distinguish work relationships based on perceived closeness with the individual employee at the center
Concept of workplace transparency brings to the foreground what tends to be treated as context in studies on open-plan offices.
Study demonstrates the role of workplace flexibility as a moderator for idea sharing

5.2.3 The need to study transparency in workplace research

Scholars may also learn from this dissertation that transparency is a valuable concept to consider in research on digital work and workplaces. I give an impetus to research on workplace transparency by taking a first step towards conceptualizing and operationalizing this "elusive" concept (Bernstein, 2017, p. 229). Adding to the literature on workplaces, this dissertation conceptualizes and studies transparency in different circumstances and its consequences for workers. For one, *within* workplaces, transparency concerned information about the role and ongoing work (*chapter 4*) in order to share ideas effectively. Literature on workplaces has largely overlooked transparency or viewed it implicitly as part of the context when studying open offices.

Furthermore, this dissertation extends the literature on digital work by moving the concept of transparency from the context within a work location (*chapter 4*) to across work locations (*chapter 3*). Specifically, in *chapter 3*, I found that as workers' repertory of workplaces broadened toward including more physical and digital places, workers experienced their colleagues' whereabouts to be opaquer (or reduced locational transparency). This was experienced as a hindrance to maintaining relationships at work despite the availability and knowledge of digital technology, as shown in the case of TechSub presented in *chapter 3*. This shows that each digital worker presents a moving piece in the network of their organization. And as workers can work increasingly mobile and remote to each other (Barley et al., 2017; Kiesler & Cummings, 2002; Porter & van den Hooff, 2020), alignment of these movements is crucial. This is particularly relevant as organizations adapt to the growing interrelatedness of our jobs (Khazanchi et al., 2018).

Taken together, the findings of this dissertation point towards including transparency as a concept in a similar way as privacy or crowding, which are both described as perceptual office dimensions (Khazanchi et al., 2018). I suggest that these findings invite future research to study

transparency more closely, for example what the relationship between transparency and privacy and, more practically, how workers and organizations can achieve a balance. Particularly, privacy represents the perspective of the one *being observed*. In contrast, workplace transparency represents the perspective of the one *observing*. Privacy and transparency are intimately connected and are "commonly experienced as a compromise or even violation of the other" (Bernstein, 2017, p. 220).

5.3 Limitations and related future research

While this dissertation addresses many topics related to the spatial aspect of digital work, this dissertation is also subject to overarching limitations, as I outline hereafter.

Understanding the type of work and employment situation. While my data show that workers are able to cope with the challenges in a variety of ways, I did not take into account how they do so within one particular profession. It could be that different professions have somewhat different ways of dealing with their physical environment. In my dissertation, the most variety of professions was present in the study of digital nomads in the hyperspatial setting. Therefore, I suggest future research to explore the affordances of nomadic work further. For example, one idea could be to differentiate between professions that require predominantly collaboration (e.g., a consultant) from those that require focused work (e.g., an academic). Since the actor's intentions are an important aspect of affordances (Fayard & Weeks, 2006; Gibson, 1979), only then will we be able to understand how different type of work contributes to how workers 'see' the affordances in the environment.

Furthermore, the employment situation of workers has implications for how someone conducts work. While self-employed workers tend to have discretion over the when and how of work, employees usually need to adapt to how work is conducted in their organization. Such a shared way of working within an organization is usually transferred early on in an employee's tenure through a process called newcomer socialization, which

refers to the process of an individual acquiring the attitudes, behavior and knowledge necessary to participate as an organizational member (Van Maanen & Schein, 1977). This may mean that employees can share in best practices, receive support and learn from others regarding how to cope with challenges in different work environments. In the future, it could provide interesting insights into the importance of support of an organizational community for workers when transitioning to or maintaining a remote work set up.

Cross-sectional nature of data. I acknowledge that the cross-sectional nature of all my datasets prevents any causal interference. In *chapter 2* and *3*, I conducted interviews and in *chapter 4*, I collected survey data at one point in time. I did my best to overcome this to some extent by conducting field observations (*chapter 2*) and collecting documents (*chapter 3*), which provided additional data over time for comparison. In chapter 4, additional data collection was not possible. Nevertheless, all three studies offer a fruitful starting point for future research that uses an experimental design to test differences between workplaces and establish causality. For example, I can imagine a study that develops an instrument to study affordances quantitatively (*chapter 2*), a longitudinal design tracking the change in relationship layer composition during a change in workplace configuration (*chapter 3*), or a quasi-experimental design with a pre- and a post-transformation measure to assess innovative behaviors (*chapter 4*).

Self-reported nature of data. I acknowledge that the majority of the data in my dissertation is reported by the respondents themselves in the interviews as well as in the survey. In *chapter 2* and *3*, the interview data represents a widely accepted way of to collect qualitative data. However, interviews are also situations in which the respondents tend to forget to articulate many of their daily routine actions due to the recall effect (Golden, 1992) and construct a coherent self-narrative after the fact (Fachin & Davel, 2015). Interviews can also be biased by the researcher's interests or because we are our own instruments when building rapport with the interviewee (Alvesson, 2003). I try to account for this by collecting additional data sources, such as observations (*chapter 2*) and documents (*chapter 3*).

In *chapter 4*, I used self-reported data on innovative work behaviors. I argue that self-report measures are appropriate in this case because employees' awareness of these situational and more subtle influences is higher (Shalley et al., 2009) and based on more complete information (e.g., history, context, intention) than is accessible to the supervisor. Also, previous studies have found that self-reported measures of innovation correlate with supervisor ratings (Axtell et al., 2000). Also, I ran additional analysis to test for the likelihood of this bias in my data because all self-report data may be subjected to common method bias (Podsakoff et al., 2003). I encourage future research to use other research designs to complement our research. For example, data of analogue and digital interactions in combination with geo-location sensors in a workplace could help to understand worker behavior in these locations.

5.4 Implications for workers and organizations

As I am formulating these implications of my research for organizations and workers, the COVID-19 pandemic is holding the world in its grip. Its impact on the way we work is undeniable as the articles in *Harvard Business Review* or *The New York Times* attest to (Bernstein et al., 2020; Boland et al., 2020; Yoon, 2020). The sudden change towards full-time remote work for white collar workers has forced companies and workers alike to take part in the "largest work-from-home experiment" ever (Bernstein et al., 2020, p. 1). As most workers are getting accustomed to the 'new normal', many companies are asking whether they should return to the office once, hopefully, we have the virus under control.

My findings affirm that organizations and workers should take the physical workplace deliberately into account because it has implications for how digital work is conducted. Specifically, I suggest three key learnings: (a) redesign the way you work, (b) make places work for (remote) work, and (c) share places to foster weak ties. Hereafter, I will touch upon these three key learnings to provide guidance for workers and organizations as they move forward. I base these take-aways on my empirical work above as well

as the hours that I spend in informal conversations with people during my research.

5.4.1 Redesign way of working

The office has long been a place where a company's employees conduct their work and come together. As digital technologies have developed, many companies found themselves faced with the decision of whether to embrace or reject working remotely. Since remote work decreases "the second largest financial overhead" of facility costs (Davis et al., 2011, p. 192), many companies have incorporated it some extent. For years, work has decreasingly been conducted within the office as "the office is becoming more decentralized, and space [place] is shrinking" (Schawbel, 2015, p. 4) and the COVID-19 crisis has expedited this development. Yet, other companies have – after trying remote work out – banned it completely like Yahoo! or IBM (Cain Miller & Rampell, 2013; Useem, 2017). Based on my research, I strongly believe that working from home, working from the office or a combination of both are not just three ways of working that can be implemented without considering three key decisions: the purpose, the infrastructure and regulations.

First, similar to a company's vision, a *purpose* for a way of working helps to make more practical decisions and communicate any changes with employees that will follow in the long-term. Why do you consider a change in way of working? Potential reasons may be to attract talent from farther away or provide more flexibility to employees. In connection, question the assumptions that you make to define the purpose (Johnson & Suskewicz, 2020). During my interviews, I often came across workers and managers alike whose thoughts about working remotely were something like "Remote work will solve all our problems because then we will have flexibility", "We need an office for our clients to see us", or "I have always worked in this way". Though different assumptions, they all hindered redesigning how work is done. Interestingly, the pandemic has demonstrated that remote work can be achieved for more white-collar workers than originally expected if *everyone* works from home and *everyone* tries to make it work.

In addition, I have also witnessed a shift in perspective: from the office as the default workplace towards working at home as the default workplace. Therefore, I urge organizations to purposefully rethink why you want your company to embrace a certain way of working. That being said, to make any way of working a success, it is important to make a number of decisions: necessary infrastructure (physical and digital) and supportive regulations.

Second, *infrastructure* refers to the technological and physical aspect of a workplace. For example, a setup with broadband internet, a screen and a laptop at home, or a noise cancelling headphone to shut out outside sounds. Also, the features offered by a software can make a significant difference: sharing screens, chatting, break out rooms during virtual meetings are just some examples. Related to this point is also the consideration about the skills that your employees need to be able to work remotely, such as pitching an idea remotely. If you have not already done so, I suggest asking your employees and collect learnings from COVID period: What worked, what did not work? How can we address the shortcomings to make remote work *work* in the long run?

Third, it is important to adjust your *regulations* to match how you set up your way of working. Exemplary question to think about are: How can we enable our employees to work anywhere (if they want to)? Do we pay our employees to have enough square meters to have and equip a home office? What about childcare for parents who work from home? Some of these regulations are meant to create equal environments for workers outside of an office to achieve productivity and satisfaction. The point here is that the office provides people, generally speaking, with an equal environment to work in but when the home becomes the workplaces, this can create inequality and potentially form hindrances to productivity. For example, a graduate living in Amsterdam is likely to have house mates and have a limited amount of square footage in the house given the prices. Similarly, parents who work from home will need childcare. Thus, there is little use to simply use more of less of the office, thereby also deciding whether to allow remote work. Rather, make conscious choices about which rules and regulations match your way of working.

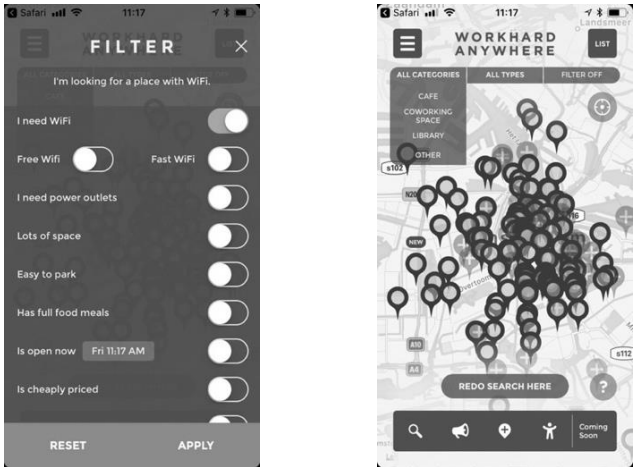


Figure 5.1 'Work Hard Anywhere' app

And lastly, any effort to redesign the way a company works should be embedded in a change management project. This helps to streamline the communication through the period of the change, provides opportunities for experimenting and evaluating of options, and engages stakeholders in the choices.

5.4.2 Make places work for (remote) work

During my research, many workers approached me about how to make 'working anywhere, anytime' work. There are three main pieces of advice that I will discuss hereafter: develop a routine, build awareness and become digitally savvy.

First, when one starts working in various locations, it is important to develop a routinized process of how to set up one's temporary workplace. Based on the interviews in my research, such a routine had two purposes: signaling to themselves that it was time to switch from leisure to work and, more importantly, reducing choices and uncertainty. The latter is an important purpose because what most people tend not to realize is that by

Table 5.3 Workplaces, features, supported work goals

Place	Physical features
Co-working spaces	• stable and fast internet • tables and chairs: level of comfort differs • community board for sharing announcements and events • work areas: focus/silent area, collaboration area, meeting rooms • paid access: 24/7, daily/monthly memberships; fixed or flexible • kitchen area to store and prepare (own) food or food (extra charge) • public area (e.g., a café), Relax/outside area (e.g., table soccer) • secluded offices (additional charge)
Cafés, restaurants	• tables and chairs: level of comfort differs • food and drinks (availability full meals varies) • noise: different types of noises • paid access (by ordering food/drinks) • accessible within opening hours • Wi-Fi: speed/stability vary • electricity plugs • air-conditioning • outside place
Housing	• proximity of location • paid access • Wi-Fi: quality differs • table and chair • quiet

	Goals	
	Focused work	**Connecting with others**
	• zoned area for focused work but most other zones are collaborative • explicit rules in focus area to enforce quietness • shared understanding of meaning of headphones	• sharing a place with other workers • people are like-minded, and may become familiar with each other over time (community element)
	• variety and volume of noises can be distracting • other people present and can be crowded • headphones as sign of 'do not disturb' may be overruled by requests to order and or by other people	• other people are usually present • people differ widely in their experiences and intentions of being in this place (work, leisure) • familiarity is less likely
	• no other people present • worker is able to determine if and how interruptions occur.	• no other people in close proximity

changing the place of work from a default to a choice, one also needs to continuously make the choice of where to work. In order for the routine to fulfill its purpose, it should be independent of one specific location but rather serve as a pattern of actions that can be executed in any location. For example, the routine might include actions around the type of hardware, how it is positioned, as well as which digital connections to start up.

Second, it is important to build awareness of which types of places are suitable for different goals. Despite what the slogan 'anywhere, anytime' suggests, my research indicates that workers can leverage locations more if they take into account a goal-environment fit (see Table 5.3). For example, if the goal is to work in a focused manner, a place where one can retract oneself tends to work best, such as accommodations or at home. However, if the goal is to connect with others face-to-face, a coworking space offer professional communities and, sometimes, an office-like feel yet more flexibility. Once a worker has created an awareness of one's goal-environment fit, there are several tools that are helpful in finding the specific locations in a city that fulfill the requirements. For example, the app Work Hard Anywhere allows workers to search locations based on personalized filters and reviews from other workers (Figure 5.1).

And lastly, the suggestions above build to a certain extent on being digitally savvy, which is crucial to ensure connection with colleagues, clients and digital objects. For further reading material, there are two prominent For a where workers share their questions and experiences around the 'working anywhere, anytime' (see Table. 5.3).

5.4.1 Chance encounters to foster weak ties

This last section focuses on interactions in and across workspaces. As today's workplaces become more interdependent (Barley & Kunda, 2001; Grant & Parker, 2009), interactions are even more crucial than before. It is important that we distinguish between planned interactions (e.g., meetings, or phone calls) and unplanned interactions (e.g., chance encounters).

While many workers are able to continue working when transforming to remote work because digital technology enables planned interactions, there is one key shortcoming that needs to be addressed: the lack of chance encounters. What research and practice have shown for years is that the closer people are to each other geographically, the more likely they are to bump into each other. Though chance encounters may not seem important for work, they are actually crucial for people to maintain relationships beyond one's close collaborators. Some business leaders have even incorporated the potential for chance encounters in the architecture of their buildings, such as Apple (Magnolfi, 2017). And Bernstein et al. (2020, p. 5) found that "after the lockdown, employees increased their communication with close collaborators by 40% but at a cost of 10% less communication with other colleagues".

I suggest two ways of addressing this shortcoming and enabling chance encounters when working remotely: using technology and using, yes, physical locations. For one, a way to arrange chance encounters and allow workers to remain remote is to use technology. One example is an application called 'Donut', which pairs coworkers randomly to have a virtual coffee. Similar to real life you can also choose to avoid people and snooze the pairings for when you are busy. Alternatively, having an open coffee call at the same time every week may also provide the 'room' to encounter coworkers. Second, another way of fostering weak ties during remote work is to deliberately get together. For example, several fully remote companies (e.g., Buffer) go on company retreats or day trips to bring coworkers together. And lastly, a combination of using technology and getting together deliberately may also offer a valuable combination.

5.5 Concluding remarks

I started this doctoral dissertation by highlighting the variety of digital work settings and I proposed to take a spatiality lens based on remoteness and mobility. In order to understand what implications the physical place has for digital workers, I conducted three empirical studies.

Overall, I demonstrated that physical place matters for digital work. The ways in which digital nomads enacted affordances to create temporary stability of work provided valuable insights for working in hyperspatial settings. Then I focused on the change of workplace configurations in a semispatial setting, which revealed the negative implications of remoteness for peripheral work relationships. And lastly, I addressed the link between workplace transparency and innovative work behaviors in a sedentary setting, where I found a positive relationship moderated by remote work I want to emphasize that organizations and workers need to make very deliberate choices about the their way of working including where to work. I have discussed the need to redesign one's way of working, presented some alternative workplaces to the office and addressed the role of place for relationships. My hope is that by making more deliberate choices about the *where* alongside *how* we work, we can, ultimately achieve more flexibility for workers and companies. Taken together, I hope my research inspires researches to take place into account when studying digital workers and that it provides guidance to practitioners interested in remote work.

Table 5.4 Overview practical advice about workplaces

Key learning	Advise	Additional resources
Rethink your way of working	• Define a purpose for way of working • Determine the necessary physical and digital infrastructure • Adapt policy, rules and metrics to match way of working • Experiment and embed any transformation in a sound change management approach	• Buffer is a technology company with 85 employees in a full-time remote setup (Buffer, 2020) • Apple's headquarters "The Spaceship" was built with proximity in mind to increase serendipitous encounters (Magnolfi, 2017) • Typical questions about remote work answered by HBR (Neeley, 2020)
Make places *work* for work	• Develop routines how to set up independent of a specific physical place • Build awareness suitable types of places for different goals • Become digitally savvy to ensure connection with colleagues, clients and digital files	• Reddit forum thread • Nomadlist platform • Work Hard anywhere app • Map of coworking spaces
Share places to foster weak ties	• Make deliberate choices when to connect face-to-face • Use technology to arrange chance encounters online • Schedule recurring optional virtual coffee chats	• Apple's headquarters "The Spaceship" was built with proximity in mind to increase serendipitous encounters (Magnolfi, 2017) • Deloitte's "The Edge" was built for transparency (Randall, 2015)

6 APPENDIX

Appendix 2.1 Interview guide digital nomads

Topic	Guiding questions
Introduction	Who are you and what do you do for work? What are your work activities on a day-to-day basis? How long have you been working and traveling?
Challenges	What are the challenges that you encounter in this way working and living? How do you cope with that?
Workplaces	Can you tell us about a typical day and where it takes place? How do you find places to work? What kind of places do you work at? How do you decide where to do what? What do you perceive as helpful/hindering in locations to do your work? How long do you stay in a location? What is your favorite workplace and why?
Mobility	Could you please sketch the last three months regarding your travels? Why did you travel to these specific locations?
Digital technology	What digital technologies are essential to your way of working and living? Why? What apps/software do you use?
Relationships & community	How would you describe your social life? How do you stay in touch? How do you get to know people? Would you consider yourself to be a part of a community, and if so, which one(s)?
Closing	Who else should I talk to? Is there anything else that you would like to share?

Appendix 3.1 Interview guide office closure

Topic	Guiding questions
Introduction	Can you introduce yourself: Who are you? What is/was your role at TechSub?
Office transformation	Can you tell me about the first moment when you heard about the change? How was it communicated? Were you involved in the office transformation? How?
Closure	How did you experience the closure? How did the transformation impact how you work? Which challenges did you encounter? What was your experience in working distributed before the closure?
Relationships	Once they mentioned the relationships with colleagues: How did you experience the relationships with colleagues before/during/after the closure?
Interaction & collaboration	How did you communicate before / during / after the closure? How did meetings take place before / during / after the closure? How did you communicate availability before / during / after the closure with your colleagues and clients?
Technology	What technology did you use? How did your use of the aforementioned technologies change during the closure?
Workplace	Where did you work before / during / after the closure? What kind of work do you do tin these locations?
Closing	What are the lessons learned from the transformation? Did any of the changes remain afterwards? Who else should I talk to? Is there anything else that you would like to share?

Appendix 4.1 Questionnaire open office

Topic	Items	Answer scale
Introduction	Purpose, contact person, anonymity of result, estimated duration	-
Demographic data	Gender	Interval
	Age (years)	Interval
	Education	Nominal
	Type of contract (part- or full-time)	Nominal
	Workhours contracted (hours)	Interval
	Workhours actual (hours)	Interval
	Tenure (years)	Interval
	Organizational tenure (years)	Interval
Organizational data	Branch	Nominal
	Department	Nominal
Office environment	Type of office	Nominal
Visual transparency	I can see what everyone does.	Interval: 1 (completely disagree) to 5 (completely agree)
	I can see what takes place in the meeting rooms.	
	I can see when colleagues meet each other.	
	I can see when colleagues are present.	
	I can see when something special happens.	
Task transparency	I'm aware what everyone is working on.	Interval: 1 (completely disagree) to 5 (completely agree)
	I'm aware about the ongoing projects.	
	I'm aware about my colleagues' responsibilities.	
	I'm aware of my colleagues' expertise.	
	I'm aware whose workload is high.	
Workplace flexibility	For each day of the week (mon-fri), whether people usually work remotely (yes/no).	Nominal (yes/no)
Idea sharing	I go to this colleague when I have a new idea	Nominal (yes/no)
Idea implementation	I promote and defend ideas to others.	Interval: 1 (completely disagree) to 5 (completely agree)
	I investigate and secure funds needed to implement ideas.	
	I develop adequate plans and schedules for the implementation of ideas.	
Comments	Opportunity for respondents to share any comments.	Open-ended

7 SUMMARY

Where work can be conducted has changed considerably over the years. Freelancers and employees alike have left the Taylorist cubicle farms (Saval, 2016) to work 'anywhere, anytime' (Chayka, 2018). For example, knowledge workers can be found in locations such as cafés, at the airport, or at home (Boell et al., 2016; Gandini, 2015). At the same time, workers have also become more mobile between various locations (e.g., Aguinis & Lawal, 2013; Ashford et al., 2007; Colbert et al., 2016) as digital technology enables them to work irrespective of a specific geographic location (Barley et al., 2017; Kiesler & Cummings, 2002; Porter & van den Hooff, 2020).

Prior research has studied topics such as trust and control (Bailey & Kurland, 2002; Sewell & Taskin, 2015), technology use (Ciolfi & de Carvalho, 2014; Leonardi et al., 2010; Mazmanian et al., 2013), or conflict across distance (Hinds & Bailey, 2003). What receives less attention is the fact that all digital work is still conducted by workers *within a physical environment*, which can hinder or support the workers' efforts (Brown & O'Hara, 2003; Irving et al., 2019). Thus, the underlying spatial configurations of digital work are being left in the background and workers' experiences of them overlooked. To understand how the physical workplace matters in digital work I address the following research question in this dissertation using qualitative and quantitative methods:

What are the theoretical and practical implications of the physical workplace for digital workers?

In the first study (*chapter 2*), I examine in-depth how digital nomads – who combine working with traveling for pleasure and digitize work processes to achieve location-independence (Reichenberger, 2017) – create temporary work environments. I show how they solve the challenges of nomadic work: working across a variety of places, conduct focused work, and embed socially. I do so by taking an affordance lens in our qualitative study of these highly mobile knowledge workers. Through interviews and observations, I discover that these knowledge workers enact three

affordances of nomadic work: malleability, privacy, and instant sociality. Also, I conduct a comparison of typical places in nomadic work along those affordances indicated that we need to broaden our understanding of the concept 'workplace'. These findings demonstrate that – paradoxically – when studying location-independent work, it is essential to take place into account. Also, my findings emphasize that workplaces are not predetermined but rather emerge from the interactions of the worker with the environment.

In the second study (*chapter 3*), I examine how a workplace configuration – an individual worker's arrangement of workplaces in a particular combination – shapes their work relationships, and particularly how employees cope with a radical change to their workplace configuration. I investigate this through a qualitative study at a global technology company which decided to close its corporate office temporarily while continuing business as usual. I find that when employees changed from a co-located to a distributed setting, their closest relationships intensified, whereas their more removed relationships diluted. However, through interviews and video data, I also find that they cope with the loss of the office by reconfiguring around new physical and digital centers. These findings demonstrate that when studying the impact of places on relational outcomes, it is essential to take a broader perspective beyond a single work location and account for the difference between relationship layers.

In the third study (*chapter 4*), I tested the relationship between the office characteristic of workplace transparency and innovative behaviors. Open offices are characterized by transparency, but the literature on open-plan offices has primarily treated this spatial characteristic as context. I propose to draw on the concept of transparency (access to work-related information) to better capture how this spatial characteristic of the open office affects innovative work behavior (i.e., idea sharing and idea implementation). I hypothesize that access to information (workplace transparency) about other worker's presence, behavior, expertise, and responsibilities is central to worker's idea sharing (interactions to exchange

ideas) and idea implementation (transformation of abstract ideas into actions). I further investigate the moderating role of workplace flexibility on this link. I test our hypotheses in a survey study of 368 respondents at a Dutch construction company which had implemented open-plan office in combination with a workplace flexibility policy. As expected, transparency is positively associated with idea sharing, but transparency contributes to innovative work behavior only when workplace flexibility was low.

Building on these three studies, this doctoral dissertation emphasizes that our physical environment plays a more prominent role for digitally enabled work than is often assumed. This is because a place can hinder or support the workers' interactions to create and maintain the physical, social and digital aspects of a workplace. How the physical environment is perceived by the worker and how the worker interacts with the environment need to be accounted for when studying digital work. By answering my research question, I contribute to the broader conversation of understanding work in the digital age (Barley & Kunda, 2001; Colbert et al., 2016; Orlikowski, 2016).

In view of the most recent push towards digitalization of work by the covid-19 pandemic, I urge scholars and practitioners alike to not disregard the physical environment in favor of the digital environment. This dissertation may inform managers to make more deliberate choices about the *where* and the *how* of working, so that we can, ultimately achieve more flexibility and adaptability for workers and companies.

8 REFERENCES

A

Agrawal, A., Kapur, D., & McHale, J. (2008). How do spatial and social proximity influence knowledge flows? Evidence from patent data. *Journal of Urban Economics*, *64*(2), 258–269. https://doi.org/10.1016/j.jue.2008.01.003

Aguinis, H., & Lawal, S. O. (2013). eLancing: A review and research agenda for bridging the science–practice gap. *Human Resource Management Review*, *23*, 6–17. https://doi.org/10.1016/j.hrmr.2012.06.003

Allen, T. J. (1977). *Managing the flow of technology: Technology transfer and the dissemination of technological information within the R&D organisation*. MIT Press.

Allen, T. J., & Gerstberger, P. G. (1973). A field experiment to improve communications in a product engineering department: The non-territorial office. *Human Factors*, *15*(5), 487–498. https://doi.org/10.1177/001872087301500505

Alvesson, M. (2003). Methodology for close up studies – struggling with closeness and closure. *Higher Education*, *46*, 167–193. https://doi.org/10.1023/A:1024716513774

Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity at work. *Administrative Science Quarterly*, *50*, 367–403.

Anderson, A. J., Kaplan, S. A., & Vega, R. P. (2015). The impact of telework on emotional experience: When, and for whom, does telework improve daily affective well-being? *European Journal of Work and Organizational Psychology*, *24*(6), 882–897. https://doi.org/10.1080/1359432X.2014.966086

Aroles, J., Granter, E., & Vaujany, F. (2020). 'Becoming mainstream': The professionalisation and corporatisation of digital nomadism. *New Technology, Work and Employment*, *35*(1), 114–129. https://doi.org/10.1111/ntwe.12158

Ashford, S. J., George, E., & Blatt, R. (2007). 2 Old assumptions, new work. *Academy of Management Annals*, *1*(1), 65–117. https://doi.org/10.1080/078559807

Ashkanasy, N. M., Ayoko, O. B., & Jehn, K. A. (2014). Understanding the physical environment of work and employee behavior: An affective events perspective. *Journal of Organizational Behavior*, *35*, 1169–1184. https://doi.org/10.1002/job.1973

Axtell, C. M., Holman, D. J., Unsworth, K. L., Wall, T. D., Waterson, P. E., & Harrington, E. (2000). Shopfloor innovation: Facilitating the suggestion and implementation of ideas. *Journal of Occupational and Organizational Psychology*, *73*(3), 265–285. https://doi.org/10.1348/096317900167029

Ayoko, O. B., & Ashkanasy, N. M. (Eds.). (2020). *Organizational Behaviour and the Physical Environment*. Routledge.

Ayoko, O. B., & Härtel, C. E. J. (2003). The role of space as both a conflict trigger and a conflict control mechanism in culturally heterogeneous workgroups. *Applied Psychology*, *52*(3), 383–412. https://doi.org/10.1111/1464-0597.00141

Azad, B., Salamoun, R., Greenhill, A., & Wood-Harper, T. (2016). Performing projects with constant connectivity: Interplay of consulting project work practices and smartphone affordances. *New Technology, Work and Employment*, *31*(1), 4–25. https://doi.org/10.1111/ntwe.12061

B

Bailey, D. E., & Kurland, N. B. (2002). A review of telework research: Findings, new directions, and lessons for the study of modern work. *Journal of Organizational Behavior*, *23*(4), 383–400. https://doi.org/10.1002/job.144

Baldry, C., & Barnes, A. (2012). The open-plan academy: Space, control and the undermining of professional identity. *Work, Employment and Society*, *26*(2), 228–245. https://doi.org/10.1177/0950017011432917

Bamberger, P., & Ang, S. (2016). The quantitative discovery: What is it and how to get it published. *Academy of Management Discoveries*, *2*(1), 1–6. https://doi.org/10.5465/amd.2015.0060

Barley, S. R., Bechky, B. A., & Milliken, F. J. (2017). From the editors: The changing nature of work: Careers, identities, and work lives in the 21st century. *Academy of Management Discoveries*, *3*(2), 111–115. https://doi.org/10.5465/amd.2017.0034

Barley, S. R., & Kunda, G. (2001). Bringing work back in. *Organization Science*, *12*(1), 76–95. https://doi.org/10.1287/orsc.12.1.76.10122

Baruch, Y. (2001). The status of research on teleworking and an agenda for future research. *International Journal of Management Reviews*, *3*(2), 113–129. https://doi.org/10.1111/1468-2370.00058

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*(2), 238–246.

Bernstein, E. S. (2017). Making transparency transparent: The evolution of observation in management theory. *Academy of Management Annals*, *11*(1), 217–266. https://doi.org/10.5465/annals.2014.0076

Bernstein, E. S., Blunden, H., Brodsky, A., Sohn, W., & Waber, B. (2020). The implications of working without an office. *Harvard Business Review*.

Bernstein, E. S., & Turban, S. (2018). The impact of the 'open' workspace on human collaboration. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *373*(20170239), 1–8. https://doi.org/10.1098/rstb.2017.0239

Bilandzic, M. (2013). *The embodied hybrid space – Designing social and digital interventions to facilitate connected learning in coworking spaces* [PhD Thesis].

Bilandzic, M., & Foth, M. (2013). Libraries as coworking spaces: Understanding user motivations and perceived barriers to social learning. *Library Hi Tech*, *31*(2), 254–273. https://doi.org/10.1108/07378831311329040

Boell, S. K., Cecez-Kecmanovic, D., & Campbell, J. (2016). Telework paradoxes and practices: The importance of the nature of work.

New Technology, Work and Employment, *31*(2), 114–131. https://doi.org/10.1111/ntwe.12063

Boland, B., de Smet, A., Palter, R., & Sanghvi, A. (2020). Reimagining the office and work life after COVID-19. *McKinsey & Company*. https://www.mckinsey.com/business-functions/organization/our-insights/reimagining-the-office-and-work-life-after-covid-19?cid=other-soc-lkn-mip-mck-oth---&sid=3407416520&linkId=90449727

Borgatti, S. P., & Cross, R. (2003). A relational view of information seeking and learning in social networks. *Management Science*, *49*(4), 432–445. https://doi.org/10.1287/mnsc.49.4.432.14428

Bosch-Sijtsema, P. M., Ruohomäki, V., & Vartiainen, M. (2010). Multi-locational knowledge workers in the office: Navigation, disturbances and effectiveness. *New Technology, Work and Employment*, *25*(3), 183–195. https://doi.org/10.1111/j.1468-005X.2010.00247.x

Boutellier, R., Ullman, F., Schreiber, J., & Naef, R. (2008). Impact of office layout on communication in a science-driven business. *R&D Management*, *38*(4), 372–391. https://doi.org/10.1111/j.1467-9310.2008.00524.x

Brakel, F., Cnossen, B., & Schlegelmilch, J. (2021). Discovering urban workscapes: Investigating Amsterdam's collective work spaces. In *The collaborative turn: How collaborative spaces foster collaboration and creativity*. Routledge.

Brennan, A., Chugh, J. S., & Kline, T. (2002). Traditional versus open office design: A longitudinal field study. *Environment and Behavior*, *34*(3), 279–299. https://doi.org/10.1177/0013916502034003001

Brown, B., & O'Hara, K. (2003). Place as a practical concern of mobile workers. *Environment and Planning A: Economy and Space*, *35*(9), 1565–1587. https://doi.org/10.1068/a34231

Browne, M. W., & Cudeck, R. (1989). Single sample cross-validation indices for covariance structures. *Multivariate Behavioral Research*, *24*(4), 445–455. https://doi.org/10.1207/s15327906mbr2404_4

Brunia, S., De Been, I., & van der Voordt, T. J. M. (2016). Accommodating new ways of working: Lessons from best practices and worst cases. *Journal of Corporate Real Estate*, *18*(1), 30–47. https://doi.org/10.1108/JCRE-10-2015-0028

Buffer. (2020). *About*. Buffer. https://lp.buffer.com/state-of-remote-work-2020

Burnes, B. (2017). *Managing change*. Pearson.

Burrell, G., & Dale, K. (2008). *The spaces of organisation and the organisation of space: Power, identity & materiality at work*. Palgrave Macmillan.

Büscher, M. (2013). Nomadic work: Romance and reality. A response to Barbara Czarniawska's 'Nomadic work as life-story plot.' *Computer Supported Cooperative Work (CSCW)*, *23*(2), 223–238. https://doi.org/10.1007/s10606-013-9194-6

C

Cain Miller, C., & Rampell, C. (2013, February 25). Yahoo orders home workers back to the office. *The New York Times*. https://www.nytimes.com/2013/02/26/technology/yahoo-orders-home-workers-back-to-the-office.html

Carlopio, J. R., & Gardner, D. (1992). Direct and interactive effects of the physical work environment on attitudes. *Environment and Behavior*, *24*(5), 579–601. https://doi.org/10.1177/0013916592245001

Carmeli, A., & Spreitzer, G. M. (2009). Trust, connectivity, and thriving: Implications for innovative behaviors at work. *The Journal of Creative Behavior*, *43*(3), 169–191. https://doi.org/10.1002/j.2162-6057.2009.tb01313.x

Castilla, E. J. (2015). Accounting for the gap: A firm study manipulating organizational accountability and transparency in pay decisions. *Organization Science*, *26*(2), 311–333. https://doi.org/10.1287/orsc.2014.0950

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Sage.

Chayka, K. (2018, February 8). When you're a "digital nomad," the world is your office. *The New York Times*. www.nytimes.com/2018/02/08/magazine/when-youre-a-digital-nomad-the-world-is-your-office.html

Ciolfi, L., & de Carvalho, A. F. P. (2014). Work practices, nomadicity and the mediational role of technology. *Computer Supported Cooperative Work (CSCW)*, *23*(2), 119–136. https://doi.org/10.1007/s10606-014-9201-6

Cohen, R. L. (2010). Rethinking 'mobile work': Boundaries of space, time and social relation in the working lives of mobile hairstylists. *Work, Employment and Society*, *24*(1), 65–84. https://doi.org/10.1177/0950017009353658

Colbert, A., Yee, N., & George, G. (2016). From the editors: The digital workforce and the workplace of the future. *Academy of Management Journal*, *59*(3), 731–739. https://doi.org/10.5465/amj.2016.4003

Corbin, J. M., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*, *13*(1), 3–21.

Costas, J. (2013). Problematizing mobility: A metaphor of stickiness, non-places and the kinetic elite. *Organization Studies*, *34*(10), 1467–1485. https://doi.org/10.1177/0170840613495324

Cousins, K., & Robey, D. (2015). Managing work-life boundaries with mobile technologies. *Information Technology & People*, *28*(1), 34–71. https://doi.org/10.1108/ITP-08-2013-0155

Cresswell, T. (2009). Place. In N. Thrift & R. Kitchen (Eds.), *International Encyclopedia of Human Geography* (Vol. 8, pp. 169–177). Elsevier.

Cristea, I. C., & Leonardi, P. M. (2019). Get noticed and die trying: Signals, sacrifice, and the production of face time in distributed work. *Organization Science*, *30*(3), 552–572. https://doi.org/10.1287/orsc.2018.1265

Cummings, J. J., & Bailenson, J. N. (2016). How immersive is enough? A meta-analysis of the effect of immersive technology on user presence. *Media Psychology*, *19*(2), 272–309. https://doi.org/10.1080/15213269.2015.1015740

Czarniawska, B. (2013). Nomadic work as life-story plot. *Computer Supported Cooperative Work (CSCW)*, *23*(2), 205–221. https://doi.org/10.1007/s10606-013-9189-3

D

Daniel, E., Di Domenico, M., & Nunan, D. (2017). Virtual mobility and the lonely cloud: Theorizing the mobility-isolation paradox for self-employed knowledge-workers in the online home-based business context. *Journal of Management Studies*, *55*(1), 174–203. https://doi.org/10.1111/joms.12321

Davis, J. L., & Jurgenson, N. (2014). Context collapse: Theorizing context collusions and collisions. *Information, Communication & Society*, *17*(4), 476–485. https://doi.org/10.1080/1369118X.2014.888458

Davis, M. C., Leach, D. J., & Clegg, C. W. (2011). The physical environment of the office: Contemporary and emerging issues. In G. P. Hodgkinson & J. K. Ford (Eds.), *International Review of Industrial and Organizational Psychology* (Vol. 26, pp. 193–235). Wiley.

Davis, T. R. V. (1984). The influence of the physical environment in offices. *Academy of Management Review*, *9*(2), 271–283. https://doi.org/10.5465/amr.1984.4277654

de Vaujany, F.-X., & Mitev, N. (2013). *Materiality and space: Organizations, artefacts and practices*. Palgrave MacMillan.

Di Marino, M., & Lapintie, K. (2015). Libraries as transitory workspaces and spatial incubators. *Library and Information Science Research*, *37*(2), 118–129. https://doi.org/10.1016/j.lisr.2015.01.001

Dourish, P. (2006). Re-space-ing place: "Place" and "space" ten years on. *Proceedings of the 20th Anniversary Conference on Computer Supported Cooperative Work*. https://doi.org/10.1145/1180875.1180921

E

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, *14*(4), 532–550. https://doi.org/10.2307/258557

Elsbach, K. D. (2003). Relating physical environment to self-categorizations: Identity threat and affirmation in a non-territorial office space. *Administrative Science Quarterly*, *48*(4), 622–654.

Elsbach, K. D., & Pratt, M. G. (2007). The physical environment in organizations. *Academy of Management Annals*, *1*(1), 181–224. https://doi.org/10.1080/078559809

Erickson, I., & Jarrahi, M. H. (2016). Infrastructuring and the challenge of dynamic seams in mobile knowledge work. *CSCW '16: Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing*, 1323–1336. https://doi.org/10.1145/2818048.2820015

F

Faraj, S., & Azad, B. (2012). The materiality of technology: An affordance perspective. In P. M. Leonardi, B. A. Nardi, & J. Kallinikos (Eds.), *Materiality and Organizing* (pp. 237–258). Oxford University Press.

Fayard, A.-L., & Weeks, J. (2006). Photocopiers and water-coolers: The affordances of informal interaction. *Organization Studies*, *28*(5), 605–634. https://doi.org/10.1177/0170840606068310

Ferris, G. R., Liden, R. C., Munyon, T. P., Summers, J. K., Basik, K. J., & Buckley, M. R. (2009). Relationships at work: Toward a multidimensional conceptualization of dyadic work relationships. *Journal of Management*, *35*(6), 1379–1403. https://doi.org/10.1177/0149206309344741

Festinger, L., Back, K. W., & Schachter, S. (1963). *Social pressures in informal groups: A study of human factors in housing*. Stanford University Press.

Flick, U., Kardorff, E. von, & Steinke, I. (Eds.). (2004). *A companion to qualitative research*. Sage Publications.

Fullerton, D. (2013, January 3). 7 Great reasons to encourage working remotely. *Fast Company*. https://www.fastcompany.com/3006402/7-great-reasons-encourage-working-remotely

G

Gajendran, R. S., & Harrison, D. A. (2007). The good, the bad, and the unknown about telecommuting: Meta-analysis of psychological mediators and individual consequences. *Journal of Applied Psychology*, *92*(6), 1524–1541. https://doi.org/10.1037/0021-9010.92.6.1524

Gandini, A. (2015). The rise of coworking space: A literature review. *Ephemera*, *15*(1), 193–205.

Garrett, L. E., Spreitzer, G. M., & Bacevice, P. (2014). Co-constructing a sense of community at work: The emergence of community in coworking spaces. *Academy of Management Proceedings*, *38*(1), 14004–14006. https://doi.org/10.5465/ambpp.2014.139

Garrett, R. K., & Danziger, J. N. (2007). Which telework? Defining and testing a taxonomy of technology-mediated work at a distance. *Social Science Computer Review*, *25*(1), 27–47. https://doi.org/10.1177/0894439306293819

Gehman, J., Glaser, V. L., Eisenhardt, K. M., Gioia, D., Langley, A., & Corley, K. G. (2017). Finding Theory–Method Fit: A Comparison of Three Qualitative Approaches to Theory Building. *Journal of Management Inquiry*, *27*(3), 284–300. https://doi.org/10.1177/1056492617706029

Gerdenitsch, C., Scheel, T. E., Andorfer, J., & Korunka, C. (2016). Coworking spaces: A source of social support for independent professionals. *Frontiers in Psychology*, *7*(581), 1–12. https://doi.org/10.3389/fpsyg.2016.00581

Ghemawat, P. (2001). Distance still matters: The hard reality of global expansion. *Harvard Business Review*, *September*, 1–10.

Giacalone, R. A., & Rosenfeld, P. (1989). *Impression management in the organization*. Lawrence Erlbaum Associates.

Gibson, J. J. (1979). The theory of affordances. In *The ecological approach to visual perception* (pp. 1–6). Houghton Mifflin.

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology.

Organizational Research Methods, *16*(1), 15–31. https://doi.org/10.1177/1094428112452151

Golden, B. R. (1992). The past is the past-or is it? The use of retrospective accounts as indicators of past strategy. *Academy of Management Journal*, *35*(4), 848–860. https://doi.org/10.2307/256318

Grant, A. M., & Parker, S. K. (2009). 7 Redesigning work design theories: The rise of relational and proactive perspectives. *Academy of Management Annals*, *3*(1), 317–375. https://doi.org/10.1080/19416520903047327

Gripsrud, M., & Hjorthol, R. (2012). Working on the train: From 'dead time' to productive and vital time. *Transportation*, *39*(5), 941–956. https://doi.org/10.1007/s11116-012-9396-7

Gulati, R., & Puranam, P. (2009). Renewal through reorganization: The value of inconsistencies between formal and informal organization. *Organization Science*, *20*(2), 422–440. https://doi.org/10.1287/orsc.1090.0421

H

Haapakangas, A., Hongisto, V., Varjo, J., & Lahtinen, M. (2018). Benefits of quiet workspaces in open-plan offices – Evidence from two office relocations. *Journal of Environmental Psychology*, *56*, 63–75. https://doi.org/10.1016/j.jenvp.2018.03.003

Halford, S. (2005). Hybrid workspace: Re-spatialisations of work, organisation and management. *New Technology, Work and Employment*, *20*(1), 19–33. https://doi.org/10.1111/j.1468-005X.2005.00141.x

Harpaz, I. (2002). Advantages and disadvantages of telecommuting for the individual, organization and society. *Work Study*, *51*(2), 74–80. https://doi.org/10.1108/00438020210418791

Harrison, S., & Dourish, P. (1997). *Re-Place-ing Space: The Roles of Place and Space in Collaborative Systems*. 1–10.

Heaphy, E. D., Byron, K., Ballinger, G. A., Gittell, J. H., Leana, C., & Sluss, D. M. (2018). Introduction to special topic forum: The changing

nature of work relationships. *Academy of Management Review*, *43*(4), 558–569. https://doi.org/10.5465/amr.2018.0222

Hertel, G., Geister, S., & Konradt, U. (2005). Managing virtual teams: A review of current empirical research. *Human Resource Management Review*, *15*(1), 69–95. https://doi.org/10.1016/j.hrmr.2005.01.002

Hinds, P. J., & Bailey, D. E. (2003). Out of sight, out of sync: Understanding conflict in distributed teams. *Organization Science*, *14*(6), 615–632. https://doi.org/10.1287/orsc.14.6.615.24872

Hinds, P. J., & Cramton, C. D. (2014). Situated coworker familiarity: How site visits transform relationships among distributed workers. *Organization Science*, *25*(3), 794–814. https://doi.org/10.1287/orsc.2013.0869

Hinds, P. J., & Kiesler, S. (Eds.). (2002). *Distributed work*. MIT Press.

Hinkin, T. R. (1995). A review of scale development practices in the study of organizations. *Journal of Management*, *21*(5), 967–988. https://doi.org/10.1177/014920639502100509

Hislop, D., & Axtell, C. (2009). To infinity and beyond?: Workspace and the multi-location worker. *New Technology, Work and Employment*, *24*(1), 60–75. https://doi.org/10.1111/j.1468-005X.2008.00218.x

Hochwarter, W. A., Ferris, G. R., Zinko, R., Arnell, B., & James, M. (2007). Reputation as a moderator of political behavior-work outcomes relationships: A two-study investigation with convergent results. *Journal of Applied Psychology*, *92*(2), 567–576. https://doi.org/10.1037/0021-9010.92.2.567

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Hua, Y., Loftness, V., Kraut, R., & Powell, K. M. (2010). Workplace collaborative space layout typology and occupant perception of collaboration environment. *Environment and Planning B: Planning and Design*, *37*(3), 429–448. https://doi.org/10.1068/b35011

Humphry, J. (2013). Officing: Mediating time and the professional self in the support of nomadic work. *Computer Supported Cooperative Work (CSCW)*, *23*(2), 185–204. https://doi.org/10.1007/s10606-013-9197-3

I

Irving, G. L., Ayoko, O. B., & Ashkanasy, N. M. (2019). Collaboration, physical proximity and serendipitous encounters: Avoiding collaboration in a collaborative building. *Organization Studies*, *41*(8), 1123–1146. https://doi.org/10.1177/0170840619856913

J

Jahncke, H., Hygge, S., Halin, N., Green, A. M., & Dimberg, K. (2011). Open-plan office noise: Cognitive performance and restoration. *Journal of Environmental Psychology*, *31*(4), 373–382. https://doi.org/10.1016/j.jenvp.2011.07.002

Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, *73*(3), 287–302. https://doi.org/10.1348/096317900167038

Jarrahi, M. H., Philips, G., Sutherland, W., Sawyer, S., & Erickson, I. (2019). Personalization of knowledge, personal knowledge ecology, and digital nomadism. *Journal of the Association for Information Science and Technology*, *70*(4), 313–324. https://doi.org/10.1002/asi.24134

Jarrahi, M. H., & Thomson, L. (2017). The interplay between information practices and information context: The case of mobile knowledge workers. *Journal of the American Society for Information Science and Technology*, *68*(5), 1073–1089. https://doi.org/10.1002/asi.23773

Johns, T., & Gratton, L. (2013). The third wave of virtual work. *Harvard Business Review*, *91*(1), 66–73.

Johnson, M. W., & Suskewicz, J. (2020, July 20). Does your company have a long-term plan for remote work. *Harvard Business Review*.

https://hbr.org/2020/07/does-your-company-have-a-long-term-plan-for-remote-work

K

Kallinikos, J., Aaltonen, A., & Marton, A. (2013). The ambivalent ontology of digital artifacts. *MIS Quarterly*, *37*(2), 357–370. https://doi.org/10.25300/MISQ/2013/37.2.02

Kanter, R. M. (1988). Three tiers for innovation research. *Communication Research*, *15*(5), 509–523.

Khazanchi, S., Sprinkle, T. A., Masterson, S. S., & Tong, N. (2018). A spatial model of work relationships: The relationship-building and relationship-straining effects of workspace design. *Academy of Management Review*, *43*(4), 590–609. https://doi.org/10.5465/amr.2016.0240

Kiesler, S., & Cummings, J. N. (2002). What do we know about proximity and distance in work groups? A legacy of research. In P. J. Hinds & S. Kiesler (Eds.), *Distributed work* (pp. 57–80). MIT Press.

Kingma, S. F. (2016). The constitution of 'third workspaces' in between the home and the corporate office. *New Technology, Work and Employment*, *31*(2), 176–193. https://doi.org/10.1111/ntwe.12068

Kitchin, R., & Hubbard, P. (Eds.). (2016). *Key thinkers on space and place* (2nd edition). Sage.

Kossek, E. E., Thompson, R. J., & Lautsch, B. A. (2015). Balanced workplace flexibility: Avoiding the traps. *California Management Review*, *57*(4), 5–25. https://doi.org/10.1002/9781118539415.wbwell030

Krackhardt, D., & Porter, L. W. (1985). When friends leave: A structural analysis of the relationship between turnover and stayers' attitudes. *Administrative Science Quarterly*, *30*(2), 242–261. https://doi.org/10.2307/2393107

Kreiner, G. E., Hollensbe, E. C., & Sheep, M. L. (2016). On the edge of identity: Boundary dynamics at the interface of individual and organizational identities. *Human Relations*, *59*(10), 1315–1341. https://doi.org/10.1177/0018726706071525

Kreiner, G. E., Hollensbe, E., Sheep, M. L., Smith, B. R., & Kataria, N. (2015). Elasticity and the Dialectic Tensions of Organizational Identity: How Can We Hold Together While We Are Pulling Apart? *Academy of Management Journal*, *58*(4), 981–1011. https://doi.org/10.5465/amj.2012.0462

Kristensen, T. (2004). The physical context of creativity. *Creativity and Innovation Management*, *13*(2), 89–96. https://doi.org/10.1111/j.0963-1690.2004.00297.x

Kurland, N. B., & Bailey, D. E. (1999). Telework: The advantages and challenges of working here, there, anywhere, and anytime. *Organizational Dynamics*, *28*(2), 53–67.

Kurland, N. B., & Egan, T. D. (1999). Telecommuting: Justice and control in the virtual organization. *Organization Science*, *10*(4), 500–513. https://doi.org/10.1287/orsc.10.4.500

L

Laurence, G. A., Fried, Y., & Slowik, L. H. (2013). "My space": A moderated mediation model of the effect of architectural and experienced privacy and workspace personalization on emotional exhaustion at work. *Journal of Environmental Psychology*, *36*, 144–152. https://doi.org/10.1016/j.jenvp.2013.07.011

Lee, S. Y., & Brand, J. L. (2005). Effects of control over office workspace on perceptions of the work environment and work outcomes. *Journal of Environmental Psychology*, *25*(3), 323–333. https://doi.org/10.1016/j.jenvp.2005.08.001

Leonardi, P. M., Huysman, M., & Steinfield, C. (2013). Enterprise social media: Definition, history, and prospects for the study of social technologies in organizations. *Journal of Computer-Mediated Communication*, *19*(1), 1–19. https://doi.org/10.1111/jcc4.12029

Leonardi, P. M., Treem, J. W., & Jackson, M. H. (2010). The connectivity paradox: Using technology to both decrease and increase perceptions of distance in distributed work arrangements. *Journal of Applied Communication Research*, *38*(1), 85–105. https://doi.org/10.1080/00909880903483599

Leonardi, P. M., & Vaast, E. (2017). Social media and their affordances for organizing: A review and agenda for research. *Academy of Management Annals*, *11*(1), 150–188. https://doi.org/10.5465/annals.2015.0144

Liegl, M. (2014). Nomadicity and the care of place—On the aesthetic and affective organization of space in freelance creative work. *Computer Supported Cooperative Work (CSCW)*, *23*(2), 163–183. https://doi.org/10.1007/s10606-014-9198-x

Lincoln, J. R., & Miller, J. (1979). Work and friendship ties in organizations: A comparative analysis of relation networks. *Administrative Science Quarterly*, *24*(2), 181–199. https://doi.org/10.2307/2392493

Locke, K. (2001). *Grounded theory in management research*. Sage Publications.

M

MacDuffie, J. P. (2007). 12 HRM and distributed work. *Academy of Management Annals*, *1*(1), 549–615. https://doi.org/10.1080/078559817

MacRae, G. (2016). Community and cosmopolitanism in the new Ubud. *Annals of Tourism Research*, *59*, 16–29. https://doi.org/10.1016/j.annals.2016.03.005

Magnolfi, J. (2017). Why Apple's new HQ is nothing like the rest of Silicon Valley. *Harvard Business Review*.

Maher, A., & von Hippel, C. (2005). Individual differences in employee reactions to open-plan offices. *Journal of Environmental Psychology*, *25*(2), 219–229. https://doi.org/10.1016/j.jenvp.2005.05.002

Maitland, A. (2016, June 30). The office is dead! Long live the office! *Financial Times*. https://www.ft.com/content/bc52a558-36de-11e6-a780-b48ed7b6126f

Malhotra, M. K., & Sharma, S. (2008). Measurement equivalence using generalizability theory: An examination of manufacturing flexibility

dimensions. *Decision Sciences*, *39*(4), 643–669. https://doi.org/10.1111/j.1540-5915.2008.00207.x

Mark, G., & Su, N. M. (2010). Making infrastructure visible for nomadic work. *Pervasive and Mobile Computing*, *6*(3), 312–323. https://doi.org/10.1016/j.pmcj.2009.12.004

Martins, E. C., & Terblanche, F. (2003). Building organisational culture that stimulates creativity and innovation. *European Journal of Innovation Management*, *6*(1), 64–74. https://doi.org/10.1108/14601060310456337

Marwick, A. E., & boyd, danah. (2011). I tweet honestly, I tweet passionately: Twitter users, context collapse, and the imagined audience. *New Media & Society*, *13*(1), 114–133. https://doi.org/10.1177/1461444810365313

Mazmanian, M., Orlikowski, W. J., & Yates, J. (2013). The autonomy paradox: The implications of mobile email devices for knowledge professionals. *Organization Science*, *24*(5), 1337–1357. https://doi.org/10.1287/orsc.1120.0806

McCullagh, P., & Nelder, J. A. (1989). *Generalized linear models* (2nd edition). Chapman and Hall.

Messenger, J. C., & Gschwind, L. (2016). Three generations of telework: New ICTs and the (r)evolution from home office to virtual office. *New Technology, Work and Employment*, *31*(3), 195–208. https://doi.org/10.1111/ntwe.12073

Methot, J. R., Melwani, S., & Rothman, N. B. (2017). The space between us: A social-functional emotions view of ambivalent and indifferent workplace relationships. *Journal of Management*, *43*(6), 1789–1819. https://doi.org/10.1177/0149206316685853

Moll, F., & de Leede, J. (2016). Fostering innovation: The influence of new ways of working on innovative work behavior. In *New ways of working practices* (3rd ed., pp. 95–143). Emerald. https://doi.org/10.1108/S1877-636120160000016006

Moores, S., & Metykova, M. (2009). Knowing how to get around: Place, migration, and communication. *The Communication Review*, *12*(4), 313–326. https://doi.org/10.1080/10714420903344428

Moultrie, J., Nilsson, M., Dissel, M., Haner, U.-E., Janssen, S., & Van der Lugt, R. (2007). Innovation spaces: Towards a framework for understanding the role of the physical environment in innovation. *Creativity and Innovation Management*, *16*(1), 53–65. https://doi.org/10.1111/j.1467-8691.2007.00419.x

Müller, A. (2016). The digital nomad: Buzzword or research category? *Transnational Social Review*, *6*(3), 344–348. https://doi.org/10.1080/21931674.2016.1229930

N

Neeley, T. (2020, March 16). 15 questions about remote work, answered. *Harvard Business Review*.

Norman, D. A. (1999). Affordances, conventions and design. *Interactions*, *6*(3), 38–42. https://doi.org/10.1145/301153.301168

O

Oksanen, K., & Ståhle, P. (2013). Physical environment as a source for innovation: Investigating the attributes of innovative space. *Journal of Knowledge Management*, *17*(6), 815–827. https://doi.org/10.1108/JKM-04-2013-0136

Oldham, G. R., & Brass, D. J. (1979). Employee reactions to an open-plan office: A naturally occurring quasi-experiment. *Administrative Science Quarterly*, *24*(2), 267–284. https://doi.org/10.2307/2392497

O'Leary, M. B., & Cummings, J. N. (2007). The spatial, temporal, and configurational characteristics of geographic dispersion in teams. *MIS Quarterly*, *31*(3), 433–452. https://doi.org/10.2307/25148802

O'Leary, M. B., Wilson, J. M., & Metiu, A. (2014). Beyond being there: The symbolic role of communication and identification in perceptions of proximity to geographically dispersed colleagues. *MIS Quarterly*, *38*, 1219–1243. https://doi.org/10.25300/MISQ/2014/38.4.13

Oostervink, N., Agterberg, M., & Huysman, M. (2016). Knowledge sharing on enterprise social media: Practices to cope With institutional

complexity. *Journal of Computer-Mediated Communication*, *21*(2), 156–176. https://doi.org/10.1111/jcc4.12153

Orlikowski, W. J. (2016). Digital work: A research agenda. In *A research agenda for management and organization studies* (pp. 88–96). Edward Elgar Publishing.

P

Parise, S. (2007). Knowledge management and human resource development: An application in social network analysis methods. *Advances in Developing Human Resources*, *9*(3), 359–383. https://doi.org/10.1177/1523422307304106

Paron-Wildes, A. J., & Simoneaux, C. (2019). Designing offices where privacy doesn't comprise safety. *Harvard Business Review*.

Parrino, L. (2015). Coworking: Assessing the role of proximity in knowledge exchange. *Knowledge Management Research & Practice*, *13*(3), 261–271. https://doi.org/10.1057/kmrp.2013.47

Patton, M. Q. (1990). *Qualitative evaluation and research methods, 2nd ed.* Sage.

Perry, M., & Brodie, J. (2005). 5 Virtually connected, practically mobile. In J. H. E. Andriessen & M. Vartiainen (Eds.), *Mobile Virtual Work* (pp. 95–127). Springer-Verlag.

Peterson, R. A. (2000). *Constructing effective questionnaires*. Sage Publications. http://catdir.loc.gov/catdir/enhancements/fy0656/99006876-t.html

Pisano, G. P. (2015, June). You need an innovation strategy. *Harvard Business Review*. https://hbr.org/2015/06/you-need-an-innovation-strategy

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Polson, E. (2013). A gateway to the global city: Mobile place-making practices by expats. *New Media & Society*, *17*(4), 629–645. https://doi.org/10.1177/1461444813510135

Porter, A. J., & van den Hooff, B. (2020). The complementarity of autonomy and control in mobile work. *European Journal of Information Systems*, *29*(2), 172–189. https://doi.org/10.1080/0960085X.2020.1728200

Prasopoulou, E., Pouloudi, A., & Panteli, N. (2017). Enacting new temporal boundaries: The role of mobile phones. *European Journal of Information Systems*, *15*(3), 277–284. https://doi.org/10.1057/palgrave.ejis.3000617

R

Raghuram, S., Hill, N. S., Gibbs, J. L., & Maruping, L. M. (2019). Virtual work: Bridging research clusters. *Academy of Management Annals*, *13*(1), 308–341. https://doi.org/10.5465/annals.2017.0020

Ragins, B. R., & Button, J. E. (2007). Positive relationships at work: An introduction and invitation. In *Exploring positive relationships at work: Building a theoretical and research foundation.* (pp. 3–25). Lawrence Erlbaum Associates Publishers.

Randall, T. (2015, September 23). The Edge is the greenest, most intelligent building in the world. *Bloomberg*. https://www.bloomberg.com/features/2015-the-edge-the-worlds-greenest-building/#:~:text=The%20Edge%20is%20also%20the,score%20ever%20awarded%3A%2098.4%20percent.

Reagans, R. (2011). Close encounters: Analyzing how social similarity and propinquity contribute to strong network connections. *Organization Science*, *22*(4), 835–849. https://doi.org/10.1287/orsc.1100.0587

Reichenberger, I. (2017). Digital nomads – a quest for holistic freedom in work and leisure. *Annals of Leisure Research*, *21*(3), 1–17. https://doi.org/10.1080/11745398.2017.1358098

Richman, A., Noble, K., & Johnson, A. (2001). *When the workplace is many places*. WFD Consulting.

Rockmann, K. W., & Pratt, M. G. (2015). Contagious offsite work and the lonely office: The unintended consequences of distributed work. *Academy of Management Discoveries*, *1*(2), 150–164. https://doi.org/10.5465/amd.2014.0016

Rosenfeld, J., & Denice, P. (2015). The power of transparency: Evidence from a British Workplace Survey. *American Sociological Review*, *80*(5), 1045–1068. https://doi.org/10.1177/0003122415597019

Rossitto, C. (2009). *Managing work at several places: Understanding nomadic practices in student groups* [Doctoral thesis]. KTH Royal Institute of Technology in Stockholm.

Rossitto, C., & Eklundh, K. S. (2007). Managing work at several places: A case of project work in a nomadic group of students. *Proceedings of the 14th European Conference on Cognitive Ergonomics Invent! Explore!*, 45–51. https://doi.org/10.1145/1362550.1362562

S

Sailer, K., & McCulloh, I. (2012). Social networks and spatial configuration: How office layouts drive social interaction. *Social Networks*, *34*(1), 47–58. https://doi.org/10.1016/j.socnet.2011.05.005

Sailer, K., & Penn, A. (2009). Spatiality and transpatiality in workplace environments. In D. Koch, L. Marcus, & J. Steen (Eds.), *Proceedings of the 7th International Space Syntax Symposium* (pp. 1–11). Royal Institute of Technology (KTH). https://sss7.org/Proceedings/04%20Building%20Morphology%20and%20Emergent%20Performativity/095_Sailer_Penn.pdf

Saval, N. (2016, February 28). The post-cubicle office and its discontents. *The New York Times*. https://www.nytimes.com/2016/02/28/magazine/the-post-cubicle-office-and-its-discontents.html

Schawbel, D. (2015, November 1). 10 Workplace trends you'll see In 2016. *Forbes*.

https://www.forbes.com/sites/danschawbel/2015/11/01/10-workplace-trends-for-2016

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, *37*(3), 580–607. https://doi.org/10.5465/256701

Scott, S. V., & Orlikowski, W. J. (2012). Reconfiguring relations of accountability: Materialization of social media in the travel sector. *Accounting, Organizations and Society*, *37*(1), 26–40. https://doi.org/10.1016/j.aos.2011.11.005

Scott, W. G. (1961). Organization theory: An overview and an appraisal. *Academy of Management Journal*, *4*(1), 7–26. https://doi.org/10.5465/254584

Sewell, G., & Taskin, L. (2015). Out of sight, out of mind in a new world of work? Autonomy, control, and spatiotemporal scaling in telework. *Organization Studies*, *36*(11), 1507–1529. https://doi.org/10.1177/0170840615593587

Shalley, C. E., Gilson, L. L., & Blum, T. C. (2009). Interactive effects of growth need strength, work context, and job complexity on self-reported creative performance. *Academy of Management Journal*, *52*(3), 489–505. https://doi.org/10.5465/amj.2009.41330806

Silverman, D. (2011). *Interpreting qualitative data* (4th edition). Sage.

Sivunen, A., & Putnam, L. L. (2019). The dialectics of spatial performances: The interplay of tensions in activity-based organizing. *Human Relations*, *73*(8), 1–28. https://doi.org/10.1177/0018726719857117

Sørensen, C., & Gibson, D. (2006). The professional's everyday struggle to ubiquitize computers. In K. Kraemer & M. Elliott (Eds.), *Computerization movements and technology diffusion: From mainframes to ubiquitous computing*. Information Today.

Spinuzzi, C. (2012). Working alone together: Coworking as emergent collaborative activity. *Journal of Business and Technical Communication*, *26*(4), 399–441. https://doi.org/10.1177/1050651912444070

Stasser, G., & Birchmeier, Z. (2003). Group creativity and collective choice. In P. B. Paulus & B. A. Nijstad (Eds.), *Group creativity: Innovation through collaboration* (pp. 85–109). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195147308.003.0005

Stohl, C., Stohl, M., & Leonardi, P. M. (2016). Digital age | Managing opacity: Information visibility and the paradox of transparency in the digital age. *International Journal of Communication*, *10*, 123–137.

Streitfeld, D. (2020, June 29). The long, unhappy history of working from home. *The New York Times*. https://www.nytimes.com/2020/06/29/technology/working-from-home-failure.html

Sturdy, A., Schwarz, M., & Spicer, A. (2006). Guess who's coming to dinner? Structures and uses of liminality in strategic management consultancy. *Human Relations*, *59*(7), 929–960. https://doi.org/10.1177/0018726706067597

Sundstrom, E. (1986). *Work places: The psychology of the physical environment in offices and factories*. Cambridge University Press.

Sundstrom, E., Burt, R. E., & Kamp, D. (1980). Privacy at work: Architectural correlates of job satisfaction and job performance. *Academy of Management Journal*, *23*(1), 101–117. https://doi.org/10.5465/255498

Sundstrom, E., Herbert, K. R., & Brown, D. W. (1982). Privacy and communication in an open-plan office: A case study. *Environment and Behavior*, *14*(3), 379–392. https://doi.org/10.1177/0013916582143007

Sundstrom, E., Town, J. P., Rice, R. W., Osborn, D. P., & Brill, M. (1994). Office noise, satisfaction and performance. *Environment and Behavior*, *26*(2), 195–221. https://doi.org/10.1177/001391659402600204

Sutherland, W., & Jarrahi, M. H. (2017). The gig economy and information infrastructure. *Proceedings of the ACM on Human-Computer Interaction*, *1*, 1–24. https://doi.org/10.1145/3134732

T

Taylor, S., & Spicer, A. (2007). Time for space: A narrative review of research on organizational spaces. *International Journal of Management Reviews*, *9*(4), 325–346. https://doi.org/10.1111/j.1468-2370.2007.00214.x

Treem, J. W., & Leonardi, P. M. (2012). Social media use in organizations: Exploring the affordances of visibility, editability, persistence, and association. *Communication Yearbook*, *36*(1), 143–189. https://doi.org/10.1080/23808985.2013.11679130

U

Useem, J. (2017). When working from home doesn't work. *The Atlantic*. https://www.theatlantic.com/magazine/archive/2017/11/when-working-from-home-doesnt-work/540660/

V

Van de Ven, A. H. (1986). Central problems in the management of innovation. *Management Science*, *32*(5), 590–607. https://doi.org/10.1287/mnsc.32.5.590

Van Gennep, A. (1960). *The rites of passage*. University of Chicago Press.

Van Maanen, J. E., & Schein, E. H. (1977). Toward a theory of organizational socialization. *Massachusetts Institute of Technology (MIT), Sloan School of Management*.

Van Marrewijk, A., & Yanow, D. (Eds.). (2017). *Organizational spaces: Rematerializing the workaday world*. Edward Elgar.

Vayre, E., & Pignault, A. (2014). A systemic approach to interpersonal relationships and activities among French teleworkers. *New Technology, Work and Employment*, *29*(2), 177–192. https://doi.org/10.1111/ntwe.12032

Vilnai-Yavetz, I., Rafaeli, A., & Yaacov, C. S. (2005). Instrumentality, aesthetics, and symbolism of office design. *Environment and Behavior*, *37*(4), 533–551. https://doi.org/10.1177/0013916504270695

Vischer, J. C. (2011). Towards an environmental psychology of workspace: How people are affected by environments for work. *Architectural Science Review*, *51*(2), 97–108. https://doi.org/10.3763/asre.2008.5114

W

Walther, J. B. (1992). Interpersonal effects in computer-mediated interaction: A relational perspective. *Communication Research*, *19*(1), 52–90. https://doi.org/10.1177/009365092019001003

Watson-Manheim, M. B., Chudoba, K. M., & Crowston, K. (2002). Discontinuities and continuities: A new way to understand virtual work. *Information Technology & People*, *15*(3), 191–209. https://doi.org/10.1108/09593840210444746

Weinfurtner, T., & Seidl, D. (2019). Towards a spatial perspective: An integrative review of research on organisational space. *Scandinavian Journal of Management*, *35*(2), 101009. https://doi.org/10.1016/j.scaman.2018.02.003

Wenger, E. C., & Snyder, W. M. (2000). Communities of practice: The organizational frontier. *Harvard Business Review*, *78*(1), 139–146.

Wilson, J. M., Boyer O'Leary, M., Metiu, A., & Jett, Q. R. (2008). Perceived proximity in virtual work: Explaining the paradox of far-but-close. *Organization Studies*, *29*(7), 979–1002. https://doi.org/10.1177/0170840607083105

Wineman, J. D., Kabo, F. W., & Davis, G. F. (2009). Spatial and social networks in organizational innovation. *Environment and Behavior*, *41*(3), 427–442. https://doi.org/10.1177/0013916508314854

Y

Yoo, Y., Boland, R. J., Lyytinen, K., & Majchrzak, A. (Eds.). (2009). Special Issue: Organizing for innovation in the digitized world. *Organization Science*, *20*(1), 278–279. https://doi.org/10.1287/orsc.1080.0416

Yoon, E. (2020, May 26). 3 Behavioral trends that will reshape our Ppost-Covid world. *Harvard Business Review*. https://hbr.org/2020/05/3-behavioral-trends-that-will-reshape-our-post-covid-world

Z

Zalesny, M. D., & Farace, R. V. (1987). Traditional versus open offices: A comparison of sociotechnical, social relations, and symbolic meaning perspectives. *Academy of Management Journal*, *30*(2), 240–259. https://doi.org/10.5465/256272

Zammuto, R. F., Griffith, T. L., Majchrzak, A., Dougherty, D. J., & Faraj, S. (2007). Information technology and the changing fabric of organization. *Organization Science*, *18*(5), 749–762. https://doi.org/10.1287/orsc.1070.0307

Zenger, T. R., & Lawrence, B. S. (1989). Organizational demography: The differential effects of age and tenure distributions on technical communication. *Academy of Management Journal*, *32*(2), 353–376. https://doi.org/10.5465/256366

9 ABRI DISSERTATION SERIES

1. Drees, J.M. (2013). The polycentricity of expansion strategies: Beyond performance as a main driver.
2. Arzlanian, S. (2014). Social networks and firm performance: Examining the relation between dimensions of social capital, social network perception and firm performance.
3. Fleisher, C. (2014). The contemporary career navigator: Individual and organizational outcomes of self-directed career management.
4. Wruck, S. (2014). Warehouse operations revisited – Novel challenges and methods.
5. Volk-Makarewicz, W. (2014). Advances in derivative estimation: Ranked data, quantiles, and options.
6. Van Anholt, R. (2014). Optimizing logistics processes in cash supply chains.
7. Polat, T. (2015). Active aging in work: Motivating employees to continue working after retirement.
8. Ossenkop, C. (2015). What you see is what you get!? Looking into ethnic diversity and professional careers in Dutch organizations.
9. Engel, Y. (2015). Venturing into the unknown, but not for the first time: An examination of firm-founders' careers & entrepreneurial decision-making under uncertainty.
10. Kolbe, L. (2015). The mindset of the R&D professional: Decision making in innovative context.
11. Pachidi, S. (2015). Crunching the numbers: Studying the enactment of analytics in an organization.
12. El Baroudi, S. (2015). Shading a fresh light on proactivity research: Examining when and how proactive behaviors benefit individuals and their employing organizations.
13. Eijdenberg, E. L. (2016). Small business growth in east African least developed countries: Unravelling the role of the small business owners.
14. Lysova, E.I. (2016). What does your career mean to you? Understanding individual career and work behaviors through the prism of the meaning of career.
15. De Mol, E. (2016). Heart and brain: The influence of affective and rational determinants in new venture teams: An empirical examination.
16. Daubner-Siva, D. (2016). Dealing with dualities: A paradox perspective on the relationship between talent management and diversity management.

17. Berkhout, J. (2016). Topics in Markov chain theory and simulation optimization.
18. Van-Werven, R. (2017). Acquiring resources for a new venture: A study of the micro-level linguistic practices of startup entrepreneurs.
19. Prats Lopez, M. (2017). Managing citizen science in the Humanities: The challenge of ensuring quality.
20. Kaandorp, M.S. (2017). Creating from within: A study on interpersonal networking approaches and intuition in task-related interaction.
21. Van Grinsven, M. (2017). A patient is not a car; Lean in healthcare: Studying agency in the translation of management concepts.
22. Muleta Eyana, S. (2017). Entrepreneurial behavior and firm performance of Ethiopian tour operators.
23. Van Ee, M. (2017). Routing under Uncertainty: Approximation and complexity.
24. Van Dijk, M. (2017). When I give, I give myself: essays on individual contributions to societal goals
25. Oostervink, N. (2017). Self-Organizing Knowledge: Examining the conditions under which professionals share and integrate knowledge.
26. Mousavi, S. (2017). Managing innovation for sustainability- A dynamic capabilities approach.
27. Cai, W. (2017). Awakening employee creativity in organizations.
28. Kranzbuhler, A.M. (2018). Orchestrating the customer journey: Four essays on how to create meaningful customer experiences.
29. Chabala, M. (2018). Small firm growth in a least developed country: How small firm owners affect the growth of their firms in Zambia.
30. Choongo, P. (2018). Sustainable Entrepreneurship in Zambia: The engagement in and effect of sustainable practices in small and medium-sized enterprises.
31. Hilbolling, S. (2018). Organizing ecosystems for digital innovation.
32. Van der Wal, A. J. (2018). Harnessing ancestral roots to grow a sustainable world.
33. Hofstra, N. (2018). Individual decision-making in operations: A behavioral perspective.
34. Mu, Y. (2019). Management of Service Innovation Quality.
35. Stephenson, K.A. (2019). Paperless professors: A study of changing academic work and workspaces.
36. Hummel, J.T. (2019). Collaboration and innovation between heterogeneous actors

37. De Jong, G. (2019). National carriers, market power and consumer loyalty: A study of the deregulatory international airline industry
38. Szabo, A. (2019). The adoption of governance practices in hospitals: The role of multi-level frames of board members in making decisions about practice adaptation
39. Sagath, D. (2019). Entrepreneurship in the Dutch space sector: The role of institutional logics, legitimacy and business incubation.
40. Günther, W. A. (2019). Data as strategic resources: Studies on how organizations explore the strategic opportunities of data
41. Laurey, N. R. (2019). Design Meets Business: an ethnographic study of the changingwork and occupations of creatives.
42. Gorbatov, S. (2019). Personal branding: self-presentation in contemporary careers.
43. Baller, A.C. (2019). Improving Distribution Efficiency in Cash Supply Chains.
44. Hoogeboom, M. (2019). Optimizing routes with service time window constraints.
45. Bosman, T. (2019). Relax, Round, Reformulate: Near-Optimal Algorithms for Planning Problems in Network Design and Scheduling.
46. Van Duin, S.R. (2020). Firms' economic motivations and responsiveness to supervision.
47. Abdallah, G.K. (2020). Differences between Entrepreneurs in Tanzania's Informal and Formal Sectors : Opportunities, Growth and Competencies.
48. Glasbeek, L. (2020). Social enterprises with exceedingly tight resources: Implications for work and leadership.
49. Shabani, A. (2020). Supply Chain Networks: Quantitative Models for Measuring Performance.
50. Plomp, J. (2020). Job crafting across employment arrangements. Proactivity on the interface of work and careers.
51. Engbers, M. (2020). How the unsaid shapes decision-making in boards: A reflexive exploration of paradigms in the boardroom.
52. Oskam, I.F. (2020). Shaping sustainable business models: Stakeholder collaboration for sustainable value creation.
53. Bunea, E. (2020). Leading and leisure: How serious leisure influences leaders' development and effectiveness.
54. Yang, C. (2020). Firm Survival and Innovation in Emerging Markets: The Case of China.

55. Tcholakian, L. (2020). On becoming historically conscious leaders: Exploring the underlying effects of transgenerational transmission of collective traumas.
56. Doornenbal, B.M. (2020). The impact of status hierarchy on individual behavior and team processes.
57. Mühlhaus, J. (2020). 'Mapping' the broader social and geographic space and its interplay with individual careers and work identities.

10 ACKNOWLEDGEMENTS

„It always seems impossible until it’s done.”

- Nelson Mandela

My Ph.D. journey would have been much less exciting, less challenging and less meaningful without all the people I have met. They have supported me, critiqued me, recognized me and opened doors for me. These last pages of the dissertation are dedicated to all of you who have been part of my rite de passage. There are a select few who I will acknowledge by name but there are so many more people who have, in one way or another contributed to me reaching the finish line. To all of you, I am incredibly grateful!

Marleen, je hebt me uitgedaagd om te bepalen hoe ik naar de wereld kijk en dat zal ik altijd met me meenemen. Dank dat je zo veel deuren voor mij geopend en mij ondersteund hebt, ook buiten het gebaande pad.

Svetlana, I am thankful for your guidance, constructive criticism and the endless confidence you have given me. The journey would not have been the same without you.

Evgenia, I am glad that you were there to help me during process of writing up my dissertation, especially the nitty-bitty parts of quantitative data analysis. I could always count on you to make time, sit down with me and discuss the papers with me until we found a solution.

Kristine, it was fantastic to meet you in Amsterdam, where you opened my eyes to a different perspective on research and how to make an impact. Thank you for inviting me to visit you at MIT CISR, it was an exciting time with many amazing people and conversations.

Members of the committee, Bart, Kristine, dr. Bondarouk, dr. Akkermans and dr. Baptista, I am thankful for the time you have devoted to reading and evaluating my dissertation as well as engaging in scholarly discussion with me during my defense.

KINners, the group has grown so much over the years and I am glad that I had the opportunity to meet so many intelligent, incredibly driven and caring people. A special thanks to *Maura, Amanda* and *Marlous*, who have been part of supervision team for a time – thank you for your support and feedback! *Joey,* wat hebben wij gelachen en samen gesworen over

kwantitatieve analyses. Je positiviteit is indrukweekend! *Florence,* het siert je dat je altijd een open oor hebt en bereid bent om te helpen. Zo hebben we samen een paar mooie evenementen georganiseerd.

Of course, where would I be without my fellow Ph.Ds over the years: *dr. Natalja* (knows the best spots in Amsterdam)*, dr. Jochem* (suit up!)*, Kathrin* (my fellow German!)*, Elmira* (always up for enjoying the sun)*,* Dennis (B&B), I am happy that you as well as Montserrat, Bomi, Jovana, Frithjof, Tomislav, Mario were part of my journey. We will always share a special bond of being a Ph.D. at KIN. I will miss the KINterklaas events where we shared some really funny poems with each other and enjoyed fantastic dinners.

Dr. Nick, dank voor alle gesprekken die we over de jaren heen gevoerd hebben. Je liep een stuk vooruit qua Ph.D. traject en deelde je ervaringen open met mij, waar ik vaak herkenning en wijsheid in vond om verder te gaan. Je talent als comedian waardeer ik ook zeker!

Lauren en *Melissa*, we hebben veel mooie momenten gedeeld en ik ben blij dat ik jullie heb leren kennen. De sinterklaasavonden in ons huisje blijven me zeker in herinnering! Ik verheug me op het moment dat ik jullie dr. kan noemen.

Wendy, je staat altijd klaar om te helpen en te sparren en daar ben ik tijdens de Ph.D. heel blij mee geweest. Wij verschillen zo veel, maar soms ook weer niet.

Ella, you have been there from the beginning even though you still lived halfway around the world. We started with reading groups and I was so excited when you decided to join KIN. Finally we were able to have those talks about research and life in person. You have inspired me in so many ways - thank you for your advise and kind words.

Jolanda, als twee handen op een buik begrijpen we elkaar. Jouw vriendschap en onze gesprekken door de jaren heen, hebben mij veel kracht en inzicht gegeven. Je bent altijd eerlijk en dat waardeer ik. Ik ben blij dat ik je als paranimf naast me heb tijdens mijn verdediging.

Lydia, ik ben blij dat we elkaar weer gevonden hebben toen ik naar Amsterdam verhuisde. Je bent in korte tijd een goede vriendin geworden met wie ik een passie voor bourgondisch genieten, spelletjes en goede gesprekken deel. Ik ben trots dat ik je als paranimf naast me heb tijdens mijn verdediging.

Meine deutsche Familie, auch aus der Ferne seid ihr dabei gewesen während dieser Zeit mit Aufmerksamkeiten, guten Gesprächen und Unterstützung.

Sophie, meine Wahlschwester, du bist immer für mich da, ganz bedingungslos und mit aufmunternden Worten.

Mijn Nederlandse familie (Coco, Steffen, dr. Henk, Tom, Lucia, Emmy en Wim)*,* zonder jullie was deze reis zeker een andere geweest. Door jullie voel ik me thuis in een land waar ik niet vandaan kom, en heb ik mensen waar ik altijd op kan rekenen. En sinds kort is het aantal (bijna) dr.'s ook nog eens snel aan het toenemen!

Mama und Papa, ich danke für die gute Basis, die ihr schon in meiner Kindheit gelegt habt. Ihr habt mich auf diese Reise vorbeitet, stark gemacht und mir geholfen durchzuhalten. Euer Grundvertrauen und unendlicher Zuspruch sind da nur zwei der vielen nennenswerten Unterstützungen auf meinem Weg.

Niek, we kennen elkaar al zo lang en ik ben dankbaar voor elke dag met jou. De Ph.D. heb ik met hoogtes en dieptes ervaren en jij was er met alles bij. Je hebt me aan het lachen gemaakt op het moment dat ik vertwijfeld was, je hebt me trots laten voelen als ik een mijlpaal maar al te gewoon vond en je hebt me gerust gesteld als ik me weer iets te zeer ter harte nam. Dank voor je liefde, je geduld en ondersteunen van mijn ambitie in deze bijzondere tijd van mijn leven.

WHERE WE WORK

Digital technologies enable us to work 'anywhere, anytime' – at least that's what many assume. What receives less attention is the fact that all digital work is still conducted by workers within a physical environment. In this doctoral dissertation, I research what role the physical workplace plays in digitally enabled work and draw conclusions for theory and practice. My first study about digital nomads shows that we need to extend our understanding of the term "workplace" to mean that a workplace is not a given but created by the worker through interacting with the physical environment. The second study finds that transitioning to remote work intensifies close relationships between employees but dilutes looser relationships even further. In the third study, I show that when workers in an open office can access work-related information about their colleagues, they are able to share more ideas. However, this positive impact is reduced if they work remotely some of the time due to the reduced access to information. Building on these three studies, this doctoral dissertation concludes that people in research and business need to take the physical environment of digital work into account. This is because a place can hinder or support the workers' interactions to create and maintain the physical, social and digital aspects of a workplace. This dissertation can also inform managers to make more deliberate choices about the where and how of work, to ultimately achieve more flexibility for workers and companies.