

# The workplace ecosystem:

Understanding and managing hybrid working environments  
with consideration for employee preferences and outcomes



TECHNISCHE  
UNIVERSITÄT  
DARMSTADT

*Fachbereich 1 Rechts- und Wirtschaftswissenschaften  
der Technischen Universität Darmstadt*

Genehmigte Dissertation von  
Kyra Johanna Voll, M.Sc.

zur Erlangung des akademischen Grades  
Doctor rerum politicarum (Dr. rer. pol.)

Erstgutachter: Prof. Dr. Andreas Pfnür  
Zweitgutachterin: Prof. Dr. Rianne Appel-  
Meulenbroek

Tag der Einreichung: 23.05.2024  
Tag der mündlichen Prüfung: 25.10.2024

Darmstadt 2024

---

Voll, Kyra Johanna: The workplace ecosystem: Understanding and managing hybrid working environments with consideration for employee preferences and outcomes  
Darmstadt, Technische Universität Darmstadt,  
Jahr der Veröffentlichung der Dissertation auf TUprints: 2024  
URN: urn:nbn:de:tuda-tuprints-285905  
Tag der mündlichen Prüfung: 25.10.2024

Urheberrechtlich geschützt/In Copyright: <https://rightsstatements.org/page/InC/1.0/>

---

---

## Acknowledgements

---

Nach zweieinhalb Jahren als Wissenschaftliche Mitarbeiterin am Fachgebiet Immobilienwirtschaft und Baubetriebswirtschaftslehre der Technischen Universität Darmstadt freue ich mich meine Doktorarbeit abzuschließen. Auf meinem Weg haben mich viele Menschen begleitet, für deren Unterstützung ich mich an dieser Stelle bedanken möchte.

Ein großer Dank gebührt meinem Doktorvater Prof. Dr. Andreas Pfnür. Seine Unterstützung bei zahlreichen wissenschaftlichen Arbeiten und praktischen Projekten haben meine fachliche und persönliche Entwicklung enorm gefördert. Insbesondere das große Vertrauen, welches mir wiederholt entgegengebracht wurde, um die immobilienwirtschaftliche Sommerkonferenz organisieren, moderieren und inhaltlich unterstützen zu dürfen weiß ich sehr zu schätzen. Mein Dank gilt auch Prof. Dr. Rianne Appel-Meulenbroek für die Bereitschaft, Zweitgutachterin meiner Arbeit zu sein, für wertvolle Tipps und dafür, dass ich meinen Forschungsaufenthalt an der TU Eindhoven verbringen durfte. Bei Dr. Felix Gauger, ohne den diese Arbeit nicht entstanden wäre, bedanke ich mich herzlich für sein Engagement, seine Inspirationen und seine Unterstützung von Anfang an. Darüber hinaus danke ich dem gesamten Lehrstuhlteam Yassien Bachtal, Martin Höcker, Fabian Lachenmayer, Jonas Rau, Maria Günther und Marion Lange sowie den zahlreichen studentischen Beschäftigten. Ich bin sehr glücklich, ein Teil der Gemeinschaft gewesen zu sein, weiß die tatkräftige Unterstützung, die gemeinsam besuchten Konferenzen und die erfolgreiche Zusammenarbeit sehr zu schätzen und werde noch lange positiv an die vergangenen Jahre zurückdenken.

Darüber hinaus gilt mein besonderer Dank meinen engsten Vertrauten und meiner Familie. Unter meinen wundervollen FreundInnen habe ich viele Vorbilder, WegbegleiterInnen, MotivatorInnen, IdeengeberInnen und Herzensmenschen, auf die ich mich zu jeder Zeit verlassen kann. Ich bin sehr dankbar dafür, dass sie mich in meinen Vorhaben bestärken, mental unterstützen und mich in den richtigen Momenten dazu anregen, Pausen einzulegen. Aus tiefstem Herzen gilt mein Dank außerdem meinen Großeltern, welche mich ihr Leben lang fördern, meinen Eltern, die mich mit ihrem Engagement, ihrem Zuspruch und ihrer Liebe bei allem begleiten, sowie meinem Bruder und seiner Lebensgefährtin, deren emotionalen Support, wertvolles Feedback und warmherzige Geduld mich bestärken. Abschließend bedanke ich mich bei meinem Partner Valentin, der mich mit seiner positiven Energie, seiner Zuversicht und seiner liebevollen Unterstützung durch die gesamte Zeit begleitet hat, indem er meinen Ehrgeiz in den richtigen Momenten befeuert oder ausdauernd mitgetragen hat. Vielen Dank!

---

---

## Summary

---

The world of work is undergoing a massive transformation, accompanied by uncertainties for society, employees and companies. In particular, the volatile business environment, the shortage of skilled workers and the continuous development of information and communication technologies present companies with new challenges. In order to meet these changes, adjustments need to be made not only to companies' core business but also to their corporate real estate strategy. In addition, accelerated by the COVID-19 pandemic, employees increasingly demand the ability to work from other locations besides the office, such as at home or from anywhere. As part of the transformation and in response to these challenges, hybrid working environments have emerged in many companies.

Hybrid working environments are characterized by the fact that employees of a company choose their workplace independently and flexibly and work from their chosen location with the support of digital technologies. This expansion of the workplace beyond company boundaries and the addition of digital space increases complexity and requires changes to the physical organization of work. The function and discipline best equipped to react to these challenges is workplace management. Workplace management has the task of developing workplace strategies that aim to provide employees with the best possible support in their work, regardless of where that work takes place, taking into account the interests of a wide range of stakeholders. The aim of workplace management is to manage all relevant resources to achieve the best outcomes for individual employees (e.g., productivity, well-being, satisfaction) and the organization, keeping results in line with company objectives.

As a result, the main question for workplace management in this great transformation of the working world, is how the physical organization of work in hybrid working environments can be deployed efficiently in line with human and spatial resources. To this end, it is essential to find out how working in different locations relates to employee work success, what preferences employees have and how this knowledge can be used to develop a workplace strategy incorporating physical and digital space. It is also necessary to understand how offices can be flexibly adapted to meet new needs, creating added value for employees in hybrid working environments and ensuring the successful survival of the organization in volatile market environments.

In research and practice, however, there is still a lack of comprehensive knowledge about hybrid working environments' processes, structures and interdependencies. Even in individual workplaces, it is not sufficiently understood how the workplace and the work

---

success of employees with knowledge-intensive tasks, i.e., knowledge workers, are connected. In order to optimally manage hybrid work environments and design the physical organization of work in the interests of successful employees, a holistic understanding of the workplace in hybrid work environments is required, which can be viewed as a workplace ecosystem. Using Bronfenbrenner's ecosystemic approach, this dissertation provides a systematic overview of the workplace in hybrid work environments. Based on five articles, the different physical workplaces (work from home, office, workation) and the digital space are analyzed in terms of employees' preferences and outcomes and the effects on workplace management.

The first article uses decision experiments to examine knowledge workers' work success and workplace choice in hybrid working environments. This analysis serves to demonstrate the relationship between work success and workplace choice on the one hand, and to identify determinants influencing the two factors on the other. The implications enable companies to design a more informed hybrid work strategy, and they allow developers and designers of information and communication systems to learn how digital tools can be adapted to support hybrid work in a more targeted manner.

The second article examines working from home. Structural equation modeling shows which workplace characteristics at home determine work success and examines whether interferences with the private environment influence work results. In addition, the study shows that differences between two countries affect employee outcomes when work-from-home. Companies can learn how to configure the home workplace to achieve positive employee and business results from these findings.

The third article deals with a workplace of the so-called 'third places', in this case, Workation. This article shows how private, social and professional life and work interact in this form of flexible working. A conceptual analysis makes it possible to define and classify workation, allowing it to be placed in the scientific discourse for the first time. The study provides important implications for research and practice in workplace management, tourism and regional and urban planning.

The fourth article focuses on the digital space, a fundamental prerequisite for hybrid work. The study analyzes individual, corporate, and social determinants that influence employees' intention to adopt their company's digital workplace. The implications enable companies to manage the interface between physical and digital space in a more targeted manner to exploit the full potential.

---

The fifth article deals with the traditional office space and its flexible adaptation to the new requirements of hybrid working environments. Based on a case study, the study identifies different employee work types with various work modes among a company's employees. The developed approach makes it possible for workplace management to achieve human-centred office space planning and to improve management flexibility in hybrid working environments.

With its findings, this dissertation expands the understanding of the interrelationships of hybrid work environments. This systematic investigation of the workplace ecosystem, including the physical and digital workplaces and the various influencing factors, makes it possible to further develop the physical organization of work. In addition, it enables workplace management with greater focus on the employee. The implications of the work not only offer added value for scientific research in workplace management and other research streams, but also provide recommendations for practical action to shape the physical organization in hybrid work environments in such a way that they create added value economically and for society as a whole.

---

---

## Zusammenfassung

---

Die Arbeitswelt unterliegt einer massiven Transformation, welche mit großen Unsicherheiten für die Gesellschaft, Mitarbeitende und Unternehmen einhergeht. Insbesondere das volatile Geschäftsumfeld, der Fachkräftemangel und die kontinuierliche Weiterentwicklung von Informations- und Kommunikationstechnologien stellen Unternehmen vor neue Herausforderungen. Um diesen Veränderungen zu begegnen, sind Anpassungen nicht nur im Kerngeschäft, sondern auch bei ihren Unternehmensimmobilien erforderlich. Hinzu kommt, dass beschleunigt durch die COVID-19 Pandemie Beschäftigte verstärkt einfordern, neben dem Büro auch an weiteren Orten wie dem Zuhause oder von überall arbeiten zu können. Im Zuge der Transformationen und als Reaktion auf diese Anforderungen haben sich in vielen Unternehmen hybriden Arbeitsumgebungen eingestellt.

Hybride Arbeitsumgebungen zeichnen sich dadurch aus, dass Mitarbeitende eines Unternehmens selbstbestimmt und flexibel ihren Arbeitsort wählen und von dort unterstützt durch digitale Technologien arbeiten. Diese Ausdehnung des Arbeitsortes über die Unternehmensgrenzen hinweg und die Erweiterung durch den digitalen Raum erhöhen die Komplexität und erfordern Veränderungen in der physischen Organisation der Arbeit. Die Unternehmensfunktion, die am besten auf diese Herausforderungen reagieren kann, ist das Arbeitsplatzmanagement. Dem Arbeitsplatzmanagement obliegt daher die Aufgabe, Arbeitsplatzstrategien zu entwickeln, die unter Beachtung vielfältiger Stakeholder-Interessen das Ziel verfolgen, die Mitarbeitenden bestmöglich in ihrer Arbeit an jedem Ort zu unterstützen. Unter Verwaltung aller dafür benötigten Ressourcen und im Einklang mit den Unternehmenszielen sollen so die besten Ergebnisse für den einzelnen Mitarbeitenden (beispielsweise Produktivität, Wohlbefinden, Zufriedenheit) und für die gesamte Organisation erzielt werden.

Für das Arbeitsplatzmanagement stellt sich im Zuge der Transformationen der Arbeitswelt konkret die Frage, wie die physische Organisation der Arbeit in hybriden Arbeitsumgebungen gestaltet werden kann, um menschliche und räumliche Ressourcen von Unternehmen effizient einzusetzen. Dazu gilt es herauszufinden, wie die Arbeit an unterschiedlichen Orten mit dem Arbeitserfolg zusammenhängt, welche Präferenzen Mitarbeitende haben und wie dieses Wissen genutzt werden kann, um eine erfolgreiche Arbeitsplatzstrategie unter Einbezug des physischen und digitalen Raums zu entwickeln. Darüber hinaus ist es notwendig zu verstehen, wie Büros flexibel an neuen Bedarfen ausgerichtet werden können, um einen Mehrwert für Mitarbeitende in hybriden

---

Arbeitsumgebungen darzustellen und das erfolgreiche Bestehen der Organisation in volatilen Unternehmensumwelten zu unterstützen.

In Forschung und Praxis fehlt es jedoch bislang an einem umfassenden Wissen über die Prozesse, Strukturen und Wirkungszusammenhänge in hybriden Arbeitsumgebungen. Selbst an den einzelnen Arbeitsorten ist bislang nicht ausreichend erforscht, wie der Arbeitsplatz und der Arbeitserfolg von Mitarbeitern mit wissensintensiven Tätigkeiten, den Wissensarbeitenden, zusammenhängen. Um hybride Arbeitsumgebungen optimal managen und die physische Arbeitsorganisation im Sinne erfolgreicher Mitarbeitende gestalten zu können, bedarf es eines ganzheitlichen Verständnisses des Arbeitsplatzes in hybriden Arbeitsumgebungen, welcher als Arbeitsplatz-Ökosystem betrachtet werden kann. Unter Anwendung des ökosystemischen Ansatzes nach Bronfenbrenner wird in dieser Dissertation ein systematischer Überblick über den Arbeitsplatz in hybriden Arbeitsumgebungen vorgenommen. Anhand von fünf Forschungsbeiträgen werden die unterschiedlichen physischen Arbeitsorte (Work from Home, Büro, Workation) und der digitale Raum in Bezug auf die Arbeitsergebnisse der Mitarbeitenden und die Auswirkungen auf das Arbeitsplatzmanagement analysiert.

Der erste Artikel untersucht anhand von Entscheidungsexperimenten den Arbeitserfolg und die Arbeitsortwahl von Wissensarbeitenden in hybriden Arbeitsumgebungen. Diese Analyse dient zum einen dem Aufzeigen des Zusammenhangs zwischen den beiden Aspekten und zum anderen der Identifikation von ihren Einflussfaktoren. Hierdurch können Unternehmen ihre hybride Arbeitsstrategie fundierter gestalten und Entwickler und Designer von Informations- und Kommunikationssystemen erfahren, wie digitale Tools zur Unterstützung von hybrider Arbeit zielgerichteter angepasst werden können.

Der zweite Artikel beleuchtet die Arbeit von zu Hause. Mithilfe von Strukturgleichungsmodellierungen wird dargestellt, welche Arbeitsplatzmerkmale zu Hause den Arbeitserfolg bestimmen und geprüft, ob Überschneidungen mit dem privaten Umfeld Einfluss auf die Ergebnisse nehmen. Darüber hinaus zeigt die Studie, dass die Unterschiede zwischen zwei Ländern die Ergebnisse der Arbeitnehmer bei der Arbeit von zu Hause aus beeinflussen. Unternehmen lernen von diesen Erkenntnissen, wie das der Arbeitsplatz zu Hause konfiguriert werden kann, um positive Ergebnisse zu erzielen.

Der dritte Artikel beschäftigt sich mit einem Arbeitsplatz der sogenannten dritten Orte, in diesem Fall Workation. Der Artikel zeigt, wie bei dieser Form des flexiblen Arbeitens das private, soziale und berufliche Leben und die Arbeit zusammenwirken. Eine konzeptionelle



---

Analyse ermöglicht es, Workation zu definieren und zu klassifizieren, wodurch sie erstmals in den wissenschaftlichen Diskurs eingeordnet werden kann. Die Studie liefert wichtige Implikationen für Forschung und Praxis im Bereich des Arbeitsplatzmanagements, Tourismus sowie der Regional- und Stadtplanung.

Im vierten Artikel wird die Betrachtung auf den digitalen Raum gelenkt, welcher eine Grundvoraussetzung für hybride Arbeit darstellt. Die Studie analysiert individuelle, unternehmerische und soziale Determinanten, die die Absicht der Mitarbeitenden beeinflussen, den digitalen Arbeitsplatz ihres Unternehmens zu nutzen. Die Implikationen ermöglichen Unternehmen die Schnittstelle zwischen physischem und digitalem Raum gezielter zu verwalten, um das volle Potential auszuschöpfen.

Der fünfte Artikel beschäftigt sich mit dem Büro und dessen flexibler Anpassung an die neuen Bedarfe hybrider Arbeitsumgebungen. Anhand einer Case Study identifiziert die Studie Arbeitstypen mit unterschiedlichen Arbeitsweisen unter den Mitarbeitenden eines Unternehmens, die es ermöglichen, eine auf den Menschen ausgerichtete Büroraumplanung und die Verbesserung der Managementflexibilität in hybriden Arbeitsumgebungen zu erreichen.

Die vorliegende Dissertation erweitert mit ihren Erkenntnissen das Verständnis der Zusammenhänge hybrider Arbeitsumgebungen. Die systematische Untersuchung des komplexen Arbeitsplatz-Ökosystems, einschließlich der physischen und digitalen Arbeitsplätze und den verschiedenen Einflussfaktoren, ermöglicht die Weiterentwicklung der physischen Arbeitsorganisation. Darüber hinaus ermöglicht sie ein Arbeitsplatzmanagement, das den Mitarbeiter stärker in den Mittelpunkt stellt. Die Implikationen der Arbeit bieten nicht nur einen Mehrwert für die wissenschaftliche Forschung des Arbeitsplatzmanagements und anderer Forschungsströmungen, sondern liefern auch relevante Handlungsempfehlungen für die Praxis, um die physische Organisation in hybride Arbeitsumgebungen so zu gestalten, dass sie wirtschaftlich und gesamtgesellschaftlich einen Mehrwert stiften.

---

---

## Table of Contents

---

Acknowledgements .....	III
Summary .....	IV
Zusammenfassung.....	VII
Table of Contents .....	X
List of Figures.....	XIII
List of Tables.....	XIV
List of Abbreviations.....	XV
1 Introduction.....	1
1.1 Motivation and Research Question.....	1
1.2 Theoretical Foundation.....	5
1.2.1 Corporate Real Estate Management, Workplace Management, and the Role of Employee Preferences and Outcomes.....	5
1.2.2 Evolution of the Physical Organization of Work toward a Workplace Ecosystem	7
1.2.3 Origins of the Ecosystemic Approach and Opportunities of its Application in Workplace Management.....	9
1.3 Positioning of the Thesis .....	12
1.4 Thesis Structure and Synopses .....	18
1.5 Presentation of the Research Articles.....	23
2 Article 1: Success of Knowledge-based Work and Workplace Choice in Hybrid Work Settings.....	29
2.1 Introduction.....	29
2.2 Theoretical Background .....	32
2.2.1 Satisfaction and Productivity as Measures of Work Success.....	32
2.2.2 Hybrid Work Settings Enable Flexibility in Workplace Choice .....	33
2.3 Framework and Hypotheses Development.....	34
2.4 Methodology.....	37
2.4.1 Item Selection .....	38
2.4.2 Experiment Setup and Sample.....	39
2.5 Results.....	40
2.5.1 Consistency .....	40
2.5.2 Correlations.....	40
2.5.3 Normalized BW Scores .....	41
2.6 Discussion and Conclusion .....	43
3 Article 2: Is the success of working from home a matter of configuration? – A comparison between the United States and Germany using PLS-SEM .....	47
3.1 Introduction.....	48
3.2 Literature Review.....	50
3.2.1 The Home as a Workplace .....	50
3.2.2 Differences in Germany and the U.S. (Work Culture).....	51
3.3 Research Model Development .....	53
3.4 Methodology.....	57

3.4.1	Data Collection.....	57
3.4.2	Data Sample.....	58
3.5	Results.....	60
3.5.1	Measurement Models .....	61
3.5.2	Structural Model and Hypothesis Testing.....	63
3.5.3	Multi-group Analysis .....	65
3.6	Discussion and Contribution .....	67
3.6.1	Implications on the Overall Sample .....	67
3.6.2	Implications of the Multi-group Analysis.....	68
3.7	Conclusion and Limitations.....	71
4	Article 3: Work from Anywhere: Traditional Workation, Coworkation and Workation Retreats: A Conceptual Review.....	73
4.1	Introduction.....	73
4.2	World of Work Developments .....	75
4.2.1	Spatial Development of Workation .....	75
4.2.2	Lifestyle Development .....	78
4.3	Traditional Workation, Coworkation, Workation Retreat – Definition of Terms.....	79
4.3.1	Characteristics of Workation.....	81
4.3.2	A Derived Definition of Workation and Distinction from other Forms .....	86
4.4	Effects on Participating Industries and Players .....	87
4.4.1	Effects on Regions and Branches.....	87
4.4.2	Effects on Real Estate Assets and Operators.....	88
4.4.3	Further Effects.....	89
4.5	Case Study using the Example of TUI.....	90
4.5.1	Workation at TUI – Mode of Operation.....	91
4.5.2	Data Sample Characteristics .....	91
4.5.3	Findings and their connection to literature .....	92
4.6	Concluding Remarks .....	95
5	Article 4: Employees’ intention to adopt the digital workplace – the role of companies in promoting the digital transformation.....	97
5.1	Introduction.....	98
5.2	Theoretical Background .....	100
5.3	Hypotheses Development.....	101
5.4	Methodology.....	105
5.5	Results.....	109
5.6	Discussion and Limitations.....	110
5.7	Conclusion and Further Research.....	113
6	Article 5: Flexible Workplace Management – A Dynamic Capabilities Perspective ..	116
6.1	Introduction.....	116
6.2	Theoretical Background .....	118
6.2.1	Workplace Flexibility.....	118
6.2.2	People-based Workplaces .....	120
6.2.3	Dynamic Capabilities .....	122

---

6.3	Research Framework.....	124
6.4	Methodology.....	126
6.5	Results.....	128
6.5.1	Sensing of Activities and Work Modes .....	128
6.5.2	Seizing Solutions for Different Work Types.....	129
6.5.3	Transforming.....	135
6.6	Discussion and Conclusion.....	136
6.6.1	Theoretical Implications .....	138
6.6.2	Practical Contributions .....	139
6.6.3	Limitations and Suggestions for Future Research.....	139
7	Thesis Conclusions and Contribution.....	141
7.1	General Conclusion.....	141
7.2	Theoretical Contributions.....	146
7.3	Implications for Practice.....	149
7.4	Limitations and Future Research.....	153
	References.....	156
	Appendix.....	I
	Appendix A – Appendix of Article 2: Is the success of working from home a matter of configuration? – A comparison between the United States and Germany using PLS-SEM... II	
	Appendix B – Appendix of Article 4: Employees’ intention to adopt the digital workplace – the role of companies in promoting the digital transformation..... IV	
	Eidesstattliche Versicherung .....	VI

---

---

## List of Figures

---

Figure 1: Basic Structure of the Ecological Systems Framework.....	10
Figure 2: Observation Framework for Workplace Management in Hybrid Working Environments.....	14
Figure 3: Research Framework Including Positioning of the Articles.....	19
Figure 4: Assumed relations among satisfaction, productivity and workplace choice.....	35
Figure 5: Experiment setup: example choice set in variant 1 – satisfaction.....	39
Figure 6: Comparison of the items of all three variant rankings.....	42
Figure 7: Research Model (authors' own illustration, 2023, following Bakker/Demerouti, 2017;.....	57
Figure 8: Work from Home Proportion over Time (authors' own illustration, 2023).....	58
Figure 9: Research model including hypothesis and structural model results (authors' own illustration, 2023).....	65
Figure 10: Multi-group comparison including significant path coefficient differences (Germany–U.S.).....	67
Figure 11: Workation types in the context of the three domains: Work, Vacation and Community (based on Engel/Scharting, 2021).....	81
Figure 12: Google Trends for Keyword 'Workation' (based on Google Trends, 2022).....	96
Figure 13: Coherence of physical and digital workplaces.....	98
Figure 14: Research Model.....	105
Figure 15: Schema of the flexible workplace management framework (own elaboration following Teece, 2018; Cabral/Winden, 2022).....	124
Figure 16: Work types work mode distribution.....	131
Figure 17: Desired future workplace distribution.....	133
Figure 18: Work mode distribution in the office.....	134
Figure 19: Procedure steps for the application of flexible workplace management.....	136

---

---

## List of Tables

---

Table 1: Overview of the Doctoral Thesis's Articles .....	21
Table 2: Summary of the Research Articles.....	28
Table 3: Factors descriptions (translated from German language) .....	38
Table 4: Correlations between the mean values of the normalized BW scores .....	41
Table 5: Sample Descriptive Statistics (authors' own illustration, 2023) .....	58
Table 6: Indicator Loadings, Mean Values and Standard Deviations (authors' own illustration, 2023) .....	61
Table 7: Internal Consistency, Reliability and Convergent Validity (authors' own illustration, 2023).....	62
Table 8: Heterotrait–Monotrait Ratio of Correlations (authors' own illustration, 2023) ....	62
Table 9: Variance Inflation Factor Values (authors' own illustration, 2023) .....	63
Table 10: R <sup>2</sup> Values (authors' own illustration, 2023).....	63
Table 11: Path Coefficients and Results for the Hypothesis Model (authors' own illustration, 2023).....	64
Table 12: MICOM Step II Results (authors' own illustration, 2023) .....	65
Table 13: Multi-group Comparison – Parametric Test and Bootstrapping Results (authors' own illustration, 2023).....	66
Table 14: Workplace Development .....	76
Table 15: Workation Sub-type Classifications .....	81
Table 16: Features and Characteristics of Shared Spaces .....	86
Table 17: Interview Summary .....	92
Table 18: Sample Descriptive Statistics.....	106
Table 19: Principal Component Analysis.....	108
Table 20: Regression Results with Intention to Adopt the Digital Workplace as a Dependent Variable .....	109
Table 21: Overview of flexibility types in the work context.....	119
Table 22: Work modes .....	129
Table 23: Mean value and standard deviation of the cluster variables.....	130
Table 24: Case study employees' nature of collaboration .....	132

---

## List of Abbreviations

---

ABW	Activity-based working
AVE	Average variance extracted
BMFSFJ	[Bundesministerium für Familie, Senioren, Frauen und Jugend] Federal Ministry for Family Affairs, Senior Citizens, Women and Youth
BMJ	[Bundesministerium der Justiz] Federal Ministry of Justice
B2B	Business-to-Business
BWS	Best-Worst Scaling
CB-SEM	Covariance-based Structural Equation Modeling
Cf	Confer
CI	Confidence Interval
CR	Composite Reliability
CREM	Corporate Real Estate Management
DCs	Dynamic capabilities
DCT	Dynamic capabilities theory
ED-R	Environmental demands-resources
Eds.	Editors
e.g.	[exempli gratia] for example
et al.	Et alii
HR	Human resources
HTMT	Heterotrait–monotrait
ICIS	International Conference on Information Systems
ICTs	Information and communication technologies
i.e.	[id est] that is
Iddiw	Institut der Deutschen Immobilienwirtschaft eV
IFMA	International Facility Management Association
IS	Information Systems
IT	Information Technology
JD-R	Job demands-resources
MICE	Meeting, incentives, conventions, and exhibitions/events
MICOM	Measurement invariance of composite models
MGA	Multi-group analysis
MTurk	Mechanical Turk
PCA	Principal component analysis
$\rho_A$	Roh A
PLS-SEM	Partial Least Square Structural Equation Modeling

---

R <sup>2</sup>	[Bestimmtheitsmaß der Regression] coefficient of determination
TWR	Transdisciplinary Workplace Research
U.S.	United States
VIF	Variance inflation factors
WFH	Working from home
WHT	Working holiday tourism
Wi-Fi	Wireless Fidelity
WLAN	Wireless Local Area Network



---

# 1 Introduction

---

## 1.1 Motivation and Research Question

Structural and dynamic changes in the corporate environment constantly present companies with new challenges. Unforeseen events, like the COVID-19 pandemic, technological innovations, and new socioeconomic trends that influence the way of working, and the resulting uncertainties of these changes require strategic reactions at all levels (Granig/Hilgarter, 2020; Helmold, 2021). A strong workforce is of paramount importance when it comes to overcoming these challenges and turning them into opportunities for the companies. On top of these developments, globalization and rapid demographic change are transforming the labor supply for companies, and the war for talent is intensifying (Gillen, 2019; Garro-Abarca et al., 2021). The shortage of qualified people with knowledge-intensive tasks, i.e., knowledge workers, enables employees to better place their demands on companies and thus exert even greater pressure. In response, but also bringing along a new set of challenges, international talent is being recruited from all over the world, which means that a company's employees are more often working together in geographically dispersed teams, which in turn creates difficulties in employee management and collaboration. Both changes, the shortage of suitable talent and the spatially distributed workforce, present companies with enormous challenges and require active management of their resources to survive in a volatile business environment (Christmann/Glatte, 2022).

Another driver of this development is progressive digitalization. On the one hand, digitalization contributes to a shift toward more professions with a high proportion of knowledge work (Christmann/Glatte, 2022). On the other hand, over the past decades and through the continuous development of information and communication technologies (ICTs), knowledge work is conducted digitally to a great extent. Digital work also allows employees to design their work flexibly regarding where and when to work (Offstein et al., 2010; Golden, 2009). In addition, the exceptional situation due to the COVID-19 pandemic led to a sudden shift away from traditional norms and practices of knowledge work and toward a primary digital conduction of work, often performed outside the corporate office (Wang et al., 2020). This global disruption of working life with the shift to working from home catalyzes a greater spatial fragmentation of work performance and exacerbates the need for a drastic change in companies' physical organization of work (Krüger, 2023).

Changes regarding human resources, i.e., a company's workforce, thus increase the pressure to adapt corporate real estate, another resource in companies that requires active management. Corporate real estate management (CREM), in particular, is strongly impacted by the volatility of the economic environment, the need for greater decentralization, and the

---

required promotion of agility (Christmann/Glatte, 2022). In addition, the transformation of working environments requires close attention of CREM. Despite all the changes described, one relevant fact remains: regardless of the extent to which work is carried out digitally, knowledge work is always performed by employees from a physical space. While office space has been the primary physical working environment for company employees since industrialization, the physical working environment where knowledge workers can perform their work has increasingly expanded. The time- and location-independent flexibilization of work that enables employees to work not only in the office but also remotely, i.e., in other places outside the office, is called “hybrid work” (Oldenburg, 1999; Bouncken/Gantert, 2021). Although hybrid work is already discussed in research and practice, today’s working world is still characterized by uncertainty as to how structures, processes, and the physical organization of work should be designed in the best possible way given that the effect mechanisms that result from this rather new form of working are not yet sufficiently understood (Bouncken/Gantert, 2021).

The hybrid organization of work influences the physical working environments of companies and their workplace strategy, especially in the post-pandemic era, triggering the need for flexibilization and the pressure to adapt (Werkmann-Karcher et al., 2023). Through the experience of working outside the office, employees are increasingly weighing up where they want to work and no longer want to give up this flexibility and freedom of workplace choice. Many studies attach great importance to working outside the office for the future physical organization of work and confirm benefits for the individual employee (e.g., Orel, 2021). However, although, on average, working from home or at third places can have a positive impact on employee work success and overall company success, the outcomes and preferences vary widely depending on different aspects, such as personality, job-related aspects, and the working environment (Pfnür et al., 2023). In addition, the profound change that employees no longer prefer to work exclusively in but also outside the office is leading to several challenges for companies and affecting the level of teams or corporations, e.g., employee recruitment, team collaboration, knowledge management and retention, leadership, and company cohesion. In addition to the uncertainty about hybrid work structures and processes, the design of the physical organization of work and the workplace strategy is thus made much more difficult for companies due to the various influences and challenges that arise from a diverse workforce and a multitude of stakeholder interest.

Nevertheless, it is highly relevant for companies to find the best possible solution for their workforce when it comes to the physical organization of work. As employees are one of a company’s most important resources, i.e., human capital, it is crucial for organizations to

---

promote the engagement, well-being, and performance of their workforce, i.e., the outcomes, in order to be successful as a company. The demographic change and the current and expected future shortage of good talent exacerbate this necessity. In times of high uncertainty, as has been the case lately, successful companies have managed to carve out a competitive advantage and, thus, a better chance to survive in constantly changing environments (Li/Liu, 2014). In order to be successful, companies need to adapt how they operate (Granig/Hilgarter, 2020). Adaptions not only cover potential evolution of the core business, but also human capital, and the organizational arrangements that enable successful employees, as well as the diverse internal and external influences on human capital (Vischer, 2011). Therefore, companies are pressured to react and adapt to meet the new requirements of employees and hybrid work as well as the consequences of the variety of workplaces, which have become so integral to employee success. The expansion of the office in a broader sense forces the realignment of the physical organization of work in companies and demands a comprehensive workplace strategy for the diverse workforce without having adequate theoretical and practical foundations, and knowledge about hybrid working environments available (Olckers/Koekemoer, 2022; Piechatzek, 2023; Suravi, 2024).

Since the increasing spread of hybrid working environments, researchers and practitioners alike have been interested in developing a new efficiency formula with strategies that maximize potential for both employees and the company (Surma et al., 2021). However, due to a greater variety of physical workplaces (home, office, and third places) and the digital space, and compounded by the various stakeholders involved, workplace management in hybrid working environments is extremely complex. Research shows that organizations need a better understanding of the employee workplace experience and outcomes and the interplay between the various workplaces to attain greater value from their human capital (Vischer, 2011; Windlinger/Tuzcuoglu, 2021). Choudhury et al. (2022) emphasize the need for further causal evidence of the effects of hybrid working environments on employee work outcomes which requires interdisciplinary research using different methodologies. In addition, according to Tagliaro and Hua (2021), strategic workplace decisions should be developed based on theories and methods by comparing and weighing up different solutions to the current situation and considering the various needs of those involved. In order to be able to adapt to the new demands for the physical organization of work and make strategic decisions not based on instinct in hybrid working environments, the complexity must thus be taken into account and the development of workplace strategies must be approached in a structured manner.

---

To capture the complexity of human relationships and interactions in the workplace, and the factors of the physical organization of work that affect employees, Yang and Sandborn (2021) recommend applying the ecological systems theory to workplace research. Furthermore, Wijnja et al. (2021) recall the workplace as an integrated ecological system. The authors draw an analogy between the workplace and an ecosystem by describing the workplace as an entity of “loosely linked spaces inside and outside the ‘office’ [...] that relies on cyberspace as well as physical space” (Wijnja et al., 2021, p. 17). In biology, ecosystems are understood as a complex network of living organisms and their interrelationships. The psychologist Uri Bronfenbrenner applied this understanding to humans in the context of ecological systems theory and developed a system of influencing factors for human development (Bronfenbrenner, 1979). By transferring this approach to the workplace as part of the reality of people’s lives, human development and the system of influencing factors can be developed for the hybrid working environment workplace. Furthermore, considering different system levels within the model provides a solid foundation for management decisions both within the office environment and beyond.

To summarize, currently there is only little research on the optimal physical organization of work in hybrid working environments to improve individual and company success. According to Appel-Meulenbroek and Danivska (2021), more strategic attention and consideration of the entire workplace system is needed. Yang and Sandborn (2021) argue that as long as workplace management only makes retrospective decisions about new spaces and reproduces already-known workplace concepts, no new knowledge can be created about the complex interrelationships occurring in hybrid working environments. Thus, two main aspects are highly relevant for workplace management: First, a better understanding of the overall workplace system including offices but also further workplaces and, second, the decoding of the black box of causal effects determining positive outcomes for the employee and the company at different workplaces in hybrid working environments (Bernstein, 2015). Consequently, this cumulative doctoral thesis aims to close the identified research gap and provide knowledge about workplace management in hybrid working environments with special consideration of employee preferences and outcomes. To this end, it will be shown how the ecosystem approach can be a suitable tool for creating a framework for analyzing the factors that influence employees in complex hybrid working environments. The thesis, therefore, aims to answer the following research question with four sub-questions:

**How can companies design the physical organization of work in hybrid working environments to deploy their human and space resources efficiently?**

- 
- (1) What role does employee workplace choice play in hybrid working environments and how can corporates use this knowledge to improve employee work success?
  - (2) How do different workplaces outside the corporate office influence employee preferences and outcomes?
  - (3) How can companies foster the adoption of the digital workplace to manage the interface between the physical and digital workplace?
  - (4) How can companies react flexibly to changing requirements regarding their office space?

Five studies, each conducted using different methodological approaches, aim to answer these research questions. The analyses are based on different datasets containing data from employees and knowledge workers in Germany working hybrid, except for one study in which American hybrid workers are also surveyed.

## **1.2 Theoretical Foundation**

This section provides a theoretical background to set the following studies in context by giving a short review of the literature and introducing relevant definitional terms. The first part will highlight a brief description of CREM, workplace management, and the employee's role as a vital resource, followed by a short outline of the development of the workplace toward hybrid working environments. Finally, the last part will conclude with an explanation why the ecosystemic approach is helpful for creating a system framework of influencing factors of the physical organization of work on the employee in hybrid working environments. To this end, the development and basic structure of the Ecological Systems Theory is briefly outlined and its benefits for application in workplace management are described.

### **1.2.1 Corporate Real Estate Management, Workplace Management, and the Role of Employee Preferences and Outcomes**

CREM focuses on the real estate assets of non-property companies, i.e., those companies whose core business does not mainly involve the acquisition, construction, management, or sale of real estate, and assumes all real estate-specific functions, such as the development of the real estate strategy, provision of space, operation, and utilization (Hartmann et al., 2007). CREM has shifted its paradigm over the past decades (Harris, 2015). Whereas corporate real estate was managed as an asset for a long time, it is more frequently being treated as a resource within companies. The management of real estate as a resource slowly changes the focus in CREM from purely managing buildings toward managing people. As companies increasingly respond to transformation needs—such as the exacerbation of skilled

---

worker shortages due to demographic changes and the expansion of workplace options through digitalization—they are managing their resources more actively (Christmann/Glatte, 2022). Over the past decade, the long-held view of real estate as primarily a cost factor for companies has begun to shift, allowing for a more accurate assessment of the value that space can create (Vischer, 2011).

CREM research shows that corporate real estate and its management can contribute to company success via three performance mechanisms: operating, real estate, and financial performance (Pfnür et al., 2021b). From the operating performance perspective, at the level of the individual employee, company performance can be created through enhanced employee outcome dynamics, such as productivity, well-being, satisfaction, and motivation. Furthermore, in organizational psychology, the physical work environment is discussed as one of the diverse factors influencing human capital (Vischer, 2011). While space is another resource to the organization itself with a variety of possible influences on the company's success, the physical working environment can also serve as a tool to support employees' work and create a frame for intra-organizational relationships (Vischer, 1996; Leaman, 2003; Kampschroer/Heerwagen, 2005). Therefore, employee outcomes are frequently studied in quantitative measurements when analyzing CREM success mechanisms and the impact of physical working environments (e.g., Yalabik, 2013; Budie et al., 2018). However, in research and practice, the effect between the workplace and work success is still considered insufficiently explained because the underlying mechanisms have hardly been theoretically substantiated to date (Voll et al., 2022a). Isolated efforts are being made to understand the effects, but as long as the knowledge is fragmentary, it is challenging to trace organizational outcomes back to the characteristics of the physical work environment. This incomplete knowledge is particularly problematic for companies as the consequences of decisions and adjustments to the physical organization of work on employees cannot be assessed. Therefore, wrong decisions or misinterpretations happen, ultimately leading to a reduction in organizational outcomes. Especially in hybrid working environments, it must be assumed that the relationships between the workplace and work success are subject to various dependencies and complexity due to the higher number of workplaces (Bouncken/Gantert, 2021).

As a result, one function of CREM gaining increasing attention in research and practice is “workplace management” (Danivska/Appel-Meulenbroek, 2021). To date, there is no generally accepted definition of the term. However, this thesis uses the International Facility Management Association's (IFMA) explanation, which refers to workplace management as “the management of all resources needed to design & maintain appropriate, effective and

---

economical workplace experiences that align to strategic business objectives and support people in doing their best work every day, wherever they are” (Jervis/Mawson, 2014, p. 10). In short, workplace management is responsible for the physical organization of work and everything necessary to improve the workplace experience and employee outcomes. Despite the number of workplace-related research results published from different disciplines, a common workplace management research stream is just starting (Appel-Meulenbroek/Danivska, 2021). By consolidating the transdisciplinary research efforts, the results of the complex issue of the workplace are more likely to be used in practice and the knowledge gained will create value for various stakeholders (Bernstein, 2015).

The decisions and interventions of workplace management, in close coordination with leadership, human resources management (HRM), and information technology (IT), should serve to create added value for the individual employee and the overall organization (Jensen/Van der Voordt, 2017). However, this perspective on space and the necessary workplace management only developed around the end of the 20th century. By that time, especially with increasing employee rights, the workplace’s focus on employees’ needs became increasingly important (Danivska/Appel-Meulenbroek, 2021). In companies, strategies for workplaces need to be designed, developed, and implemented carefully (O’Rourke, 2021). Workplace strategy is defined as the dynamic alignment of work processes and work environment (Ellison Schriefer, 2005). In order to generate added value for employees and the organization through the physical working environment, the workplace strategy must be developed in close alignment with the corporate strategy (Jervis/Mawson, 2014). However, given that the processes leading to successful outcomes in individual workplaces, whether in an office or at home, are not yet fully understood or sufficiently researched, it is essential to first adopt a holistic view of the complex systemic relationships in hybrid working environments to decipher the underlying mechanisms of their effects. Otherwise, workplace management struggles to make the right decisions in their workplace strategy when striving for high employee and organizational outcomes (Wijnja et al., 2021).

### **1.2.2 Evolution of the Physical Organization of Work toward a Workplace Ecosystem**

The term “workplace” can be divided into “work” and “place”; hence, “workplace” refers to the place where people work. While the workplace consists of several aspects (social, personal, physical), in this thesis the physical working environment is the center of attention and only peripherally includes the other aspects. Before industrialization, people worked usually at home, which is therefore often referred to as the “first place”, following Oldenburg’s (1999) classification of places.

---

With the increase in knowledge-intensive tasks, work soon shifted to offices. The corporate office, or “second place,” is highly relevant as a place of work and can occur in various designs, e.g., cellular office, open-plan office, open space, or activity-based working office (Oldenburg, 1999; Bouncken/Gantert, 2021). Besides working in the office, working from home has become increasingly important for knowledge workers<sup>1</sup> during the COVID-19 pandemic and continues to influence the physical organization of work in companies (Oldenburg, 1999; Alipour et al., 2020; Brynjolfsson et al., 2020).

In addition, third places, which according to Oldenburg (1999) originally included public places not necessarily meant to work from but for social gatherings, have attracted growing attention as workplaces in recent years. Third places are now understood to be various concepts of shared spaces and new working environments. Coworking spaces, as a further development and flexibilization of classic office environments, are among the most noted third places (e.g., Gauger, 2023). Nevertheless, new third place phenomena, such as workation, i.e., the combination of work and leisure at vacation destinations, are also moving into CREM’s sphere of action.

Overall, working outside the office, which is possible from almost anywhere due to technological developments, is regularly referred to as “remote work.” Remote work encompasses a range of mobile work. The terms are sometimes used synonymously because they are not clearly defined (Heidt, 2023).

Driven by the growing trend toward digitalization, the term “workplace” is further extended to incorporate virtual working environments. Hybrid work can only arise thanks to the digital space, as it enables virtual work which can be carried out from locations outside the office (Garro-Abarca et al., 2021). Thus, enabled by ICTs, the workplace’s physical space is being expanded to include the digital space (Vischer, 2011; Attaran et al., 2019). Since knowledge work is becoming increasingly digital, companies have to rely on information systems for their employees to work successful (Wang et al., 2020; Harris et al., 2022). Many companies integrate a digital workplace to enable their employees to access company resources from wherever they work and to collaborate over distance (Dery et al., 2017).

In the recent past and in the future working world, it can be assumed that knowledge workers will no longer only go to one place of work, but will switch between several workplaces depending on their working conditions, functions, or tasks. This hybrid working, also referred to as multi-locality, flexible or distributed work (Pfnür et al., 2023;

---

<sup>1</sup>In this thesis, the terms “knowledge worker” and “employee” are used synonymously, as the group of employees in question performs knowledge-intensive tasks.



---

Bouncken/Gantert, 2021), implies that not all employees work at the same place at the same time every day. Due to the spatial flexibility, employees work in a fragmented way and hybrid collaboration emerges. Hybrid collaboration of employees, also mentioned as sequential hybridization of work (Werkmann-Karcher et al., 2023), implies that work “on-site,” i.e., in the office, is combined with digital work, e.g., by connecting participants via video tools for collaborative work while they are located at home or at third places. Possibly, the main characteristic evolving from hybrid working environments for companies is the extension of the physical organization of work beyond the corporate office space. Because employees are no longer only in the office during working hours but interact with other private or social environments when working remotely, the scope of action of workplace management expands and increases in complexity. The totality of such interactions between people and their different environments is being referred to as an “ecosystem.” Similarly, the term “workplace ecosystem” or “ecological system” has been used when referring to the totality of workplaces (Joroff/Becker, 2016; Surma et al., 2021; Wijnja et al., 2021; Yang/Sandborn, 2021).

### **1.2.3 Origins of the Ecosystemic Approach and Opportunities of its Application in Workplace Management**

Ecological Systems Theory originated in the sociological sciences. Searching for a way to understand the complexity of human behavior, the psychologist Uri Bronfenbrenner developed a system framework to research the impact of social interaction on child development (Bronfenbrenner, 1979). This ecosystemic approach was soon transferred to many other applications as society “arrived at a point where the concerns of basic developmental science are converging with the most critical problems” (Bronfenbrenner, 2000, p. 133) that nations face and is promising to capture complex problems in the modern world. This is because the framework can be used for the entirety of complex environments where a one-dimensional view is no longer possible, but where a system of influencing factors can serve as the basis for consideration.

The idea of ecosystems combines the understanding of ecology, namely, the biological interrelationship between organisms and their natural environment, with that of systems, according to which there is a totality of elements that are interconnected and interact with each other. Bronfenbrenner (1979) transferred the idea of ecosystems to humans with their entire material and social environment. The transfer led to a new understanding of human development that instead of focusing mainly on individual behavior also included the environment. The research need and the challenge that Bronfenbrenner sought to address, which led him to develop the ecosystemic approach, parallel the current issues in workplace

management. This is because workplace management attempts to understand the processes and relationships between the workplace and successful employees in order to achieve promising outcomes in complex hybrid work environments.

Ecological System Theory posits that different interconnected systems of social and physical environments affect an individual’s development, whether child or adult (Yang/Sandborn, 2021). Those environments are divided into clear categories, with interdependencies between the systems and human behavior. In addition, the development of the individual is driven by dynamic, changing conditions. Thus, one of the basic premises of Ecological Systems Theory is that “systems are dynamic, change is constant, and everything is connected to everything else” (Salazar/Beaton, 2000, p. 471). Depending on the impact of environmental changes, changes in behavior accumulate because humans adapt to environmental conditions (Hawley, 1950). The topological conception (see *Figure 1*) of the environment is presented through “a nested arrangement of concentric structures, each contained within the next” (Bronfenbrenner, 1979, p. 22).

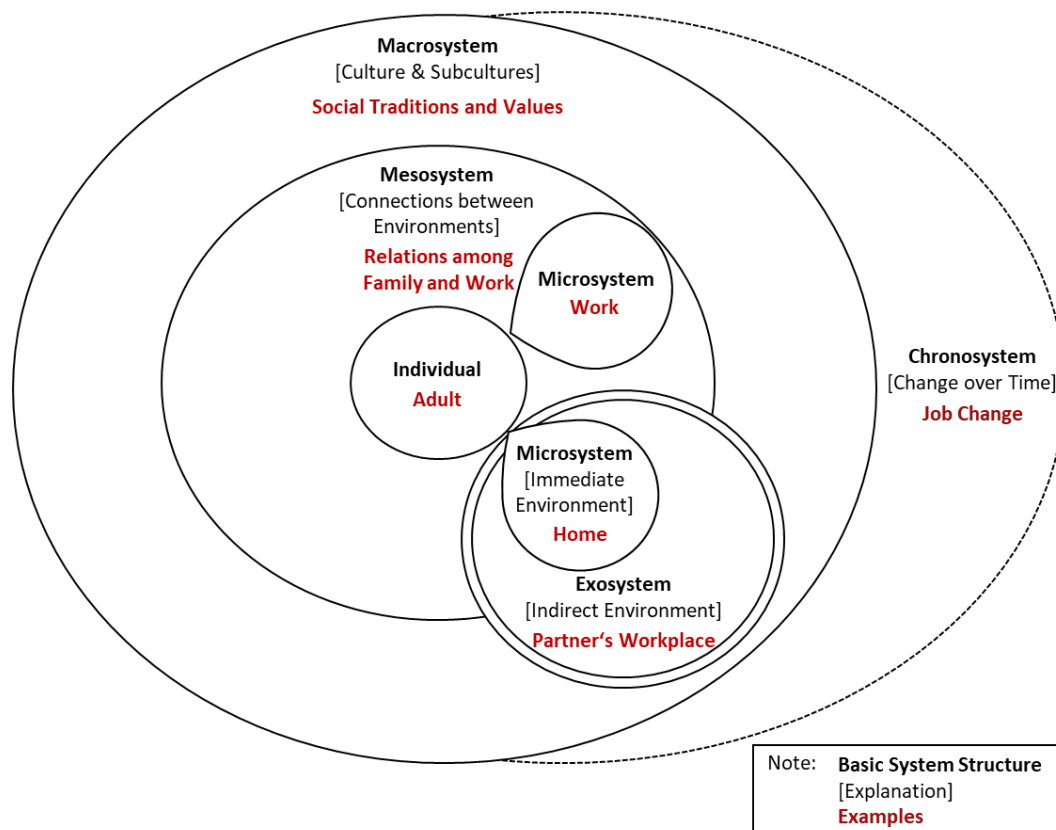


Figure 1: Basic Structure of the Ecological Systems Framework

(Own illustration following Bronfenbrenner, 1979, 2000; Kubek, 2012, and Yang/Sandborn, 2021)

The individual, e.g., an adult, is at the center of the framework. As the individual’s immediate environment, the microsystem comprises elements of the closest circle. The immediate settings of adults are, e.g., home and work (Bone, 2015; Yang/Sandborn, 2021). The

---

microsystem is surrounded by the mesosystem, which represents the interrelations within and between those environmental settings. Thus, for an adult, these interrelations between environments where the individual participates actively include, e.g., relations among family, work, and social groups (Bronfenbrenner, 1979). The exosystem reflects linkages between the settings that influence the individual but do not actively involve it. For an adult, these factors can include the individual's network or a partner's workplace. The macrosystem refers to cultural influences such as varying perspectives or social traditions and values that may affect the individual. Finally, the chronosystem symbolizes time, e.g., changes during the individual's life time.

The holistic framework of Ecological Systems Theory is the basis for various research interests in different fields. Yang and Sandborn (2021) were the first to examine why and how the ecosystemic approach can also be helpful in workplace research and summarize the various ways it has yet to be applied. They highlight several examples, including, e.g., to conceptualize workplace flexibility (Hill et al., 2008). Furthermore, studies applied the ecosystemic approach to investigate workplace management issues, e.g., in the context of future teleworking inclinations (Weber et al., 2022) or to analyze workplace health and well-being management holistically (Bone, 2015). Previous workplace studies applying Ecological Systems Theory use diverse research methods. These methods tend to be dominated by qualitative explorations or quantitative forms in which data collection is conducted via surveys and the results are analyzed with regressions. However, Yang and Sandborn (2021) also point out that empirical studies and evidence that strengthen the model's applications still need improvement. Accordingly, the physical settings of workplace environments should be given more significant consideration so that effects on behavior, such as employee satisfaction or productivity, can be further investigated.

Since the study by Yang and Sandborn (2021), the complexity of workplace management has increased further due to new influences on the physical organization of work. The workplace is no longer represented solely by the office; i.e., the system includes different types of environments in the daily lives of employees. In hybrid working environments, the workplace interconnections, e.g., with the private environment when working from home with children asking for attention, or with the leisure environment and society when working from third places such as through a conversation with another user of a co-working space. In searching for the optimal design of the physical organization of work in hybrid work environments, workplace management must consider the complexity of these influences. To understand how companies can optimally deploy their human and spatial resources,

---

applying the ecosystemic approach to the workplace can be beneficial. The approach helps elucidate the physical and social environmental factors and their interrelations by examining various system levels within and beyond the office setting. This perspective allows certain relationships to be recognized that were previously not visible or were considered only singularly. The system framework, thus, allows complexity to be better described and made more transparent, and enables workplace management to consider the interconnections of systems as they should be well thought through when developing workplace strategies (Surma et al., 2021) by further deciphering the “black box” of effect mechanisms between workplace and work success.

Another advantage of applying the ecosystemic approach to workplace management is its focus on the employee. In the research community, there is a growing call for a new perspective to improve the usability of workplaces (Windlinger/Tuzcuoglu, 2021). Usability concentrates on the use and interaction of people with space and the resulting experiences. A user-centric view on hybrid working environments through the employee perspective on the workplace could be helpful for workplace management to create a successful workplace strategy that suits a company’s diverse workforce through improved usability. The ecosystemic approach aids in understanding employee preferences and outcomes in hybrid working environments. In turn, this understanding enables workplace management to create value for companies through a suitable physical organization of work. Interdisciplinary research is thereby important due to the complex interactions occurring between people and space.

### **1.3 Positioning of the Thesis**

Workplace management research is receiving increasing attention in different strands of literature (e.g., CREM, environmental psychology, information systems, and social sustainability of human beings) and corporate practice. However, there still needs to be a sufficient research stream (Appel-Meulenbroek/Danivska, 2021). Combining the insights gained in the diverse disciplines can help develop practical implications for workplace management and make them available in a bundled form.

Due to the novelty and high complexity of hybrid working environments, previous literature has mainly focused on individual workplaces, e.g., office, home, third place, and digital workplace (Surma et al., 2021). In the hybrid working environment, however, there is an unprecedented abundance of places besides the office where employees can work and the interconnection due to working in the office, from home, or at third places influences other social systems and vice versa (Surma et al., 2021). Therefore, workplace management

---

research and practice must consider the comprehensive effects that arise from the existence of additional workplaces, taking into account different environments of employees' lives and expanding workplace strategies to incorporate working from home or third places and digital work.

However, there is a lack of a holistic model that can be used to map the complexity of hybrid working environments in order to make employee preferences, outcome dynamics, and interrelations transparent. By applying Bronfenbrenner's (1979) ecosystemic approach to the workplace, the multifaceted nature of hybrid working environments, with blending work and private life, can be represented through several system levels. The complex reality of life is reduced to essential specifications but, at the same time, Ecological Systems Theory enables research to highlight the links between system levels to consider the relationships between the individual and wider societal ideologies, the bureaucratic system associated with their workplace, and the family and colleagues with whom the employee interacts (Bone, 2015). Further, the approach facilitates workplace management to develop comprehensive conceptions with not solely physical but also sociocultural or psychological environmental elements included in order to see cumulative effects on employee preferences and outcomes (Stokols, 2000).

In this thesis, the ecosystemic approach is applied to further decipher the black box of workplace impacts on employees in hybrid working environments. In particular, the thesis provides insights into the factors that influence employee preferences and outcomes, and shows how workplace management can better design the physical organization of work to deploy human and space resources efficiently and maximize organizational outcomes. The workplace ecosystem framework provides a systematic overview of the phenomenon and facilitates the achievement of the research objectives of this thesis (Nilsen, 2015; Appel-Meulenbroek/Danivska, 2021). The developed observation framework can therefore be seen as an initial proposal for mapping the workplace ecosystem in the context of hybrid working environments. The framework is suitable for use far beyond the aspects considered in this thesis regarding workplace management. The following passages describe the framework illustrated in *Figure 2* and offer an initial contribution to the improved understanding and management of hybrid work environments. Chapter 1.4 then presents the system levels and interdependencies examined in this thesis.

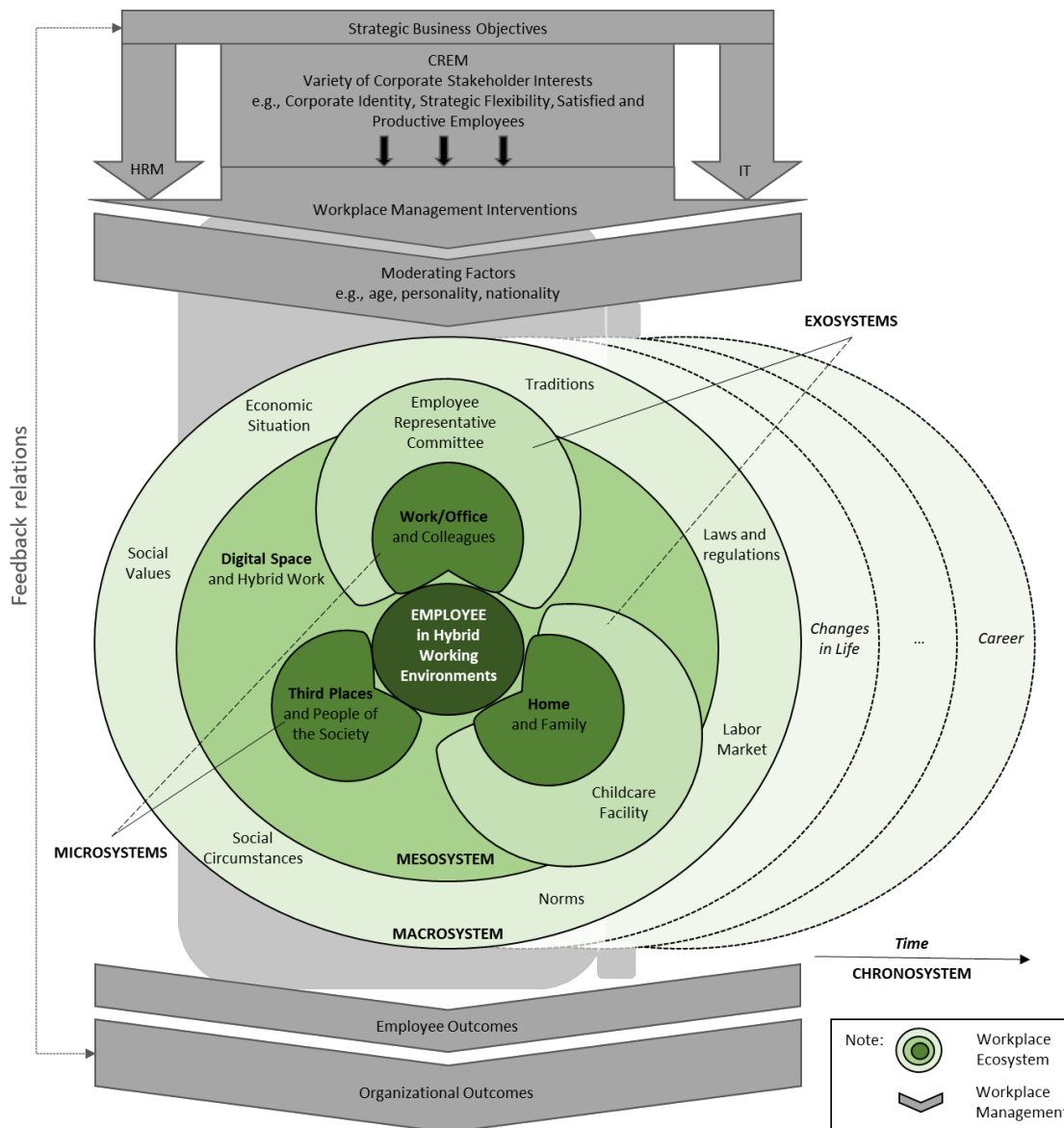


Figure 2: Observation Framework for Workplace Management in Hybrid Working Environments  
(Own illustration)

The workplace ecosystem in the center of the observation framework has been developed based on Bronfenbrenner’s basic framework structure with all its system levels (see *Figure 1*). It represents the influencing factors of the physical organization of work on the employee in hybrid working environments. The system levels are described in the following paragraphs from the innermost to the outermost level. Above and below the framework, a process flow, shown in grey, outlines the mechanism of action of workplace management in a company. Workplace management has to manage all resources needed to enable employees best work wherever they perform it (Jervis/Mawson, 2014). Workplace management interventions have to be aligned to strategic business objectives and are not only influenced by the variety of corporate stakeholder interests regarding CREM, e.g., creating corporate identity, enabling strategic flexibility, or achieving satisfied and productive employees, but must also

---

be created in cooperation with other departments such as HRM and IT. However, even if the interventions are the same for all employees, differences arise in the perception of the environment due to the individual's unique memories, personality, cultural ideals, beliefs or associations, and degree of individual flexibility, all of which contribute to the experience. In the observation framework, these differences, which determine the influence of workplace management decisions on the individual employee, are visualized by moderating factors. Depending on the individual characteristics of the employee and significantly influenced by their environment, the employee's outcomes are created. The employee outcomes ultimately result in the organizational outcomes, which are in a feedback relationship with the strategic business objectives.

### **The Employee in Hybrid Working Environments**

The workplace ecosystem reflects the workplace situation in hybrid working environments, which have been established in many companies since the COVID-19 pandemic (Bouncken/Gantert, 2021; Vermani/Sharma, 2021; Naor, 2022; Olckers/Koekemoer, 2022; Piechatzek, 2023). The focus of the innermost level is on the employee as an individual, driven by dynamic, changing, and connected interactions between the employee and the physical environment (Bronfenbrenner, 1979). The individual can actively influence the environmental settings as much as the environment can impact the employee. The employee reflects the human capital that is of great importance for companies striving for successful organizational outcomes. For companies, it is important to better understand how to align workplace strategy to employee needs to be successful, considering a diverse workforce. Many studies from different scientific fields show evidence of the advantages and disadvantages of working in the office, at home and at third places for employees, and conclude that not every individual can work successfully at every workplace (e.g., Haynes et al., 2017; Yunus/Ernawati, 2018; Bueno et al., 2018; Carneval/Hatak, 2020; Ipsen et al., 2021; Weber et al., 2022; Clifton et al., 2022; Pillai/Prasad, 2023). However, scientific evidence suggests that employees appear to be able to select suitable workplaces according to their needs and preferences to work successfully (Spivack/Milosevic, 2018; Höcker et al., 2022). Yet, to date, there is a lack of clear understanding of the relationship between knowledge workers' work success and workplace choice in hybrid working environments. The reasons why employees choose a particular workplace and what exactly makes them satisfied and productive while working are undetected. However, this knowledge would allow workplace management to make better-informed decisions about the workplaces being included in the workplace strategy, and thus be considered as a workplace for employees. Even beyond workplace management, knowledge of the factors influencing work success

---

and workplace choice can help the information systems (IS) community to develop and design ICT systems in a more targeted way to support hybrid working. In turn, these improved systems would help increase the success of employees and the overall company results.

### **Microsystem – The Physical Workplaces**

The physical places directly influencing the employee are the second level of the framework, reflected in the microsystem. While working, the individual engages with the respective work environment. Those settings can be working from home (first place), the office environment with the community of coworkers (second place), or the broader society when working at third places. The physical working environment is recognized to have an influence on employee workplace experience and diverse outcomes (Haynes et al., 2017; Carneval/Hatak, 2020; Windlinger/Lange, 2021; Weber et al., 2022). In addition, different social dynamics within a company, at home, or in third places influence employee perceptions (Bone, 2015). For example, experiences made on a daily basis, such as family–work interference, connecting to new people while on workation, or inspiring exchanges with supervisors in the office, impact employees' preferences and outcomes. Thus, the working environments, consisting of both objective and perceived properties, are experiential spaces where the employee forms perceptions (Bronfenbrenner, 1979).

Until now, scientists have mainly focused on office workplaces. Since the COVID-19 pandemic, research on working from home has been growing and interest in third places is also slowly increasing (Pfnür et al., 2021a). Nevertheless, there is a lack of complete understanding of the links between physical workplaces and knowledge-based work outcomes. Especially for the newly added workplaces, knowledge is still missing as well as approaches to respond to the changing requirements and greater flexibility required in office planning. By better understanding the impact of the different workplaces on employee preferences and outcomes in the hybrid working environment, workplace management can better address employee and organizational outcomes through the right interventions (Wijnja et al., 2021). In addition, considering the impact of hybrid working on offices enables companies to maintain the value of space as a resource by making workplace strategy decisions based on more than just gut feeling (Tagliaro/Hua, 2021).

### **Mesosystem Digital Space**

The interrelation between different microsystem settings is represented in the framework through the next layer, the mesosystem. When working in hybrid working environments, different areas and aspects of an individual's life overlap, e.g., home and work (Bone, 2015;



---

Yang/ Sandborn, 2021). Through hybrid working, those microsystems are connected and cannot be seen as separate from each other. If the employee works in the office on one day, then interaction can still take place with a colleague who is working from home that same day, i.e., hybrid collaboration occurs. Another example of how the system of third places with people of society and the office or home system can be connected is the public debate about return-to-office policies that might lead to the company's C-level restricting the amount of work from home.

In addition, knowledge-based work is increasingly digital. As Orlikowski and Scott (2016, p. 88) state: "work today almost always entails the digital. Even where the work itself doesn't directly involve a computing device, most contemporary work practices involve digital technology." Therefore, knowledge work can be performed from almost anywhere, and physical and digital space blend. Enabled by ICTs, it is always possible to work digitally from home, the office, or third places, i.e. different systems (Surma et al., 2021; Aroles et al., 2021). As work and life become increasingly intertwined through connectivity and different IS, workplace management in hybrid work environments must consider the impact of the workplace strategy on different systems (Yang/Sandborn, 2021; Lanzl et al., 2024). Thus, within the workplace ecosystem, the digital space can be seen as part of the mesosystem.

Companies are increasingly using digital workplaces to enable employees' access to company resources. In hybrid working environments, not all employees are usually at the same place simultaneously, so the digital workplace also supports them in successful hybrid collaboration. In research and practice, the growing trend of work digitalization focuses on issues related to flexibility, (technical) innovation, and associated challenges (Behrens et al., 2024). Workplace technologies, once instrumental tools to support employees' work in the office, have become an essential basis for the work of individuals and collaboration in companies (Baptista et al., 2020). Thus, studies have attempted to capture the far-reaching effects of workplace technologies in companies (Silva/Hirschheim, 2007). Furthermore, insights on the impact of technology use and employee performance outcomes exist (Kuegler et al., 2015); however, there is still a lack of knowledge about the transformation of the workplace in the digital age and the effective management of digital systems in hybrid working environments (Contreras et al., 2020; Aroles et al., 2021; Klaser et al., 2023). In particular, it is still uncertain what the adoption of the digital workplace by employees depends on. Without this knowledge, there is a risk that digital workplaces will not be actively used and that integrating them into a company's workplace strategy will only generate costs and no benefits.

---

## Exosystem, Macrosystem, and Chronosystem

The exosystem refers to the environment in which the employee is not actively involved. Nevertheless, the events in the exosystem influence the employee and the environment in which the employee actively participates (Bronfenbrenner, 1979). For example, an employee's preference for working from home can be influenced by the situation if a worker is absent from the childcare facility, causing the child to stay at home. For this thesis, the events of the exosystem are not considered in detail because they have a strong influence on the individual, but neither the employee nor the workplace management have can directly influence the exosystem. For this reason, the system is deliberately not hidden, but is set aside for the analyses to support workplace management.

The macrosystem comprises the totality of all relationships in a society and refers to cultural influences, legal regulations, the economic situation, and the situation in the labor market. The macrosystem level is also included in the observation framework, but is only indirectly included in the analyses. For example, the macrosystem level also refers to the image of hybrid work that predominates in society. This central consideration is decisive for workplace management and yet cannot be influenced directly, which is why it only determines the background to the studies in this thesis.

Finally, the chronosystem symbolizes the dimension of time or temporal developments to illustrate its indirect influence on the employee. The developed framework should be able to be used beyond the purposes of this thesis. Because research recognized that certain interactions are only effective if they occur regularly or over a longer period of time, the chronosystem is illustrated as part of the framework (Bronfenbrenner, 2000). Even though the investigations in this study took place at different times, this system level is not analyzed specifically and in isolation.

### 1.4 Thesis Structure and Synopses

By applying the ecosystemic approach to the workplace in hybrid working environments, influences on employee preferences and outcomes can be analyzed in a structured and more comprehensive way to support workplace management in designing the physical organization of work. The employee in hybrid working environments, the microsystem, and the mesosystem are analyzed with separate studies, including influences of moderating factors and effects on workplace management interventions and employee outcomes. The information gained provides workplace management with a new perspective on employees in hybrid working environments. *Figure 3* shows the positioning of this thesis' articles in the observation framework to provide an overview of the thesis's research objective.

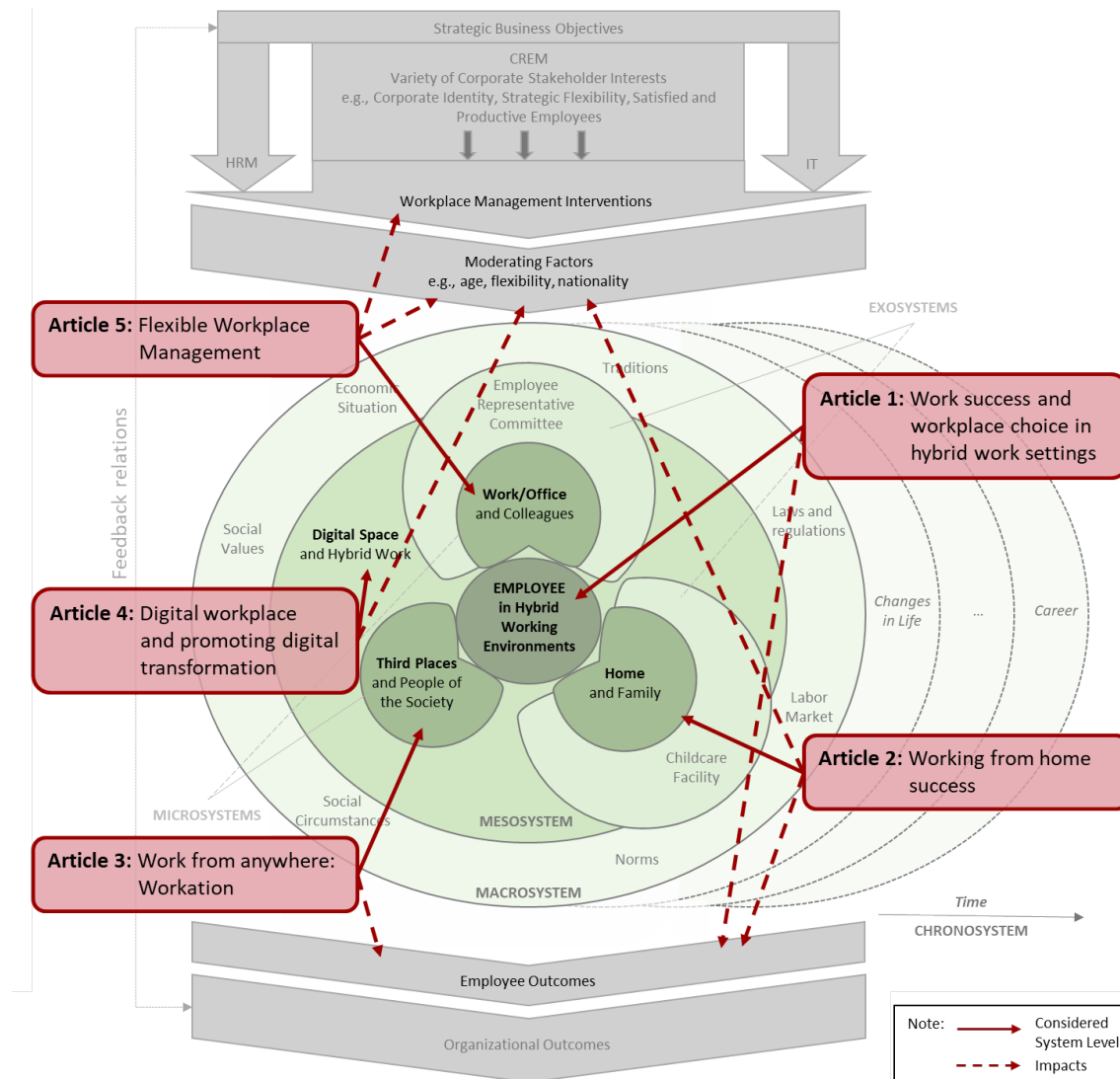


Figure 3: Research Framework Including Positioning of the Articles  
(Own illustration)

The first article focuses on the employee in hybrid working environments. As hybrid working environments have only recently become more widespread in companies, there is still a lack of in-depth understanding about employees' workplace choice in research and practice. Thus, before employee work success mechanisms when working at individual workplaces can be analyzed, the relationship between employee work success and workplace choice is examined by exploring possible similarities in their influencing determinants. Through this approach, the first research question is investigated: (1) *What role does employee workplace choice play in hybrid working environments and how can corporates use this knowledge to improve employee work success?*

The next two studies, articles two and three, focus on the new workplaces emerging through the expansion of the office in hybrid working environments. Therefore, the first and third place are examined. For the first place, home, article two investigates the mechanisms and

---

factors influencing employee outcomes when working from home. After that, in article three, workation is addressed as a rather new phenomenon of third places with growing interest. The article aims to create a basic understanding of workation and to determine how and for which individuals workation can improve work outcomes. The two studies address the second research question: (2) *How do different workplaces outside the corporate office influence employee preferences and outcomes?*

Article four focuses on the digital space. For companies, the digital workplace is of particular interest. This workplace, like any other, only works if it is used, and therefore companies are interested in finding out how they can support their employees' intention to adopt the digital workplace. Thus, with this study the third research question is addressed: (3) *How can corporates foster the adoption of the digital workplace to manage the interface between the physical and digital workplace?*

The fifth article deals with the office, which was the central field of action for workplace management before the development toward hybrid working environments. The final article investigates the changing requirements for the second place with implications for workplace management. Based on a case study, a framework for flexible office space planning is proposed and, thus, the last research question addressed: (4) *How can companies react flexibly to changing requirements regarding their office space?*

The thesis is divided into seven chapters. In the introduction, the motivation and the research questions are presented, the theoretical foundation and terminology are explained and the positioning of the thesis and the synopses are presented (Chapter 1). The following five chapters contain one research article each (Chapters 2–6). They all contribute to the broad research field of workplace management but have not exclusively been published in real estate journals. Instead, one article is published in an international journal addressing critical leisure research and theory while the other is submitted to a business research journal. A third article is a contribution to a book that deals with innovation and leadership in the age of technology and another article is submitted to the International Conference on Information Systems (ICIS). The number of different target journals illustrates the variety of disciplines from which workplace management research input is required and at the same time expands the readership for whom this thesis is relevant beyond the real estate sector. Finally, the thesis concludes by summarizing the theoretical and practical contributions, pointing out limitations and identifying future research needs (Chapter 7). *Table 1* presents the included research articles of this cumulative doctoral thesis.

Table 1: Overview of the Doctoral Thesis's Articles

<b>Chapter 2</b> (Article 1)	<b>Success of Knowledge-based Work and Workplace Choice in Hybrid Work Settings</b> Voll, K., Höcker, M. C., Bachtal, Y., Pfnür, A. & Schlereth, C. (2024). <i>ICIS</i>	<b>Under Review</b>
<b>Chapter 3</b> (Article 2)	<b>Is the success of working from home a matter of configuration? – A comparison between the United States and Germany using PLS-SEM</b> Voll, K. & Pfnür, A. (2024). <i>Journal of Corporate Real Estate</i> , 26(2), 82–112. <a href="https://doi.org/10.1108/JCRE-03-2023-0010">https://doi.org/10.1108/JCRE-03-2023-0010</a>	<b>Published</b>
<b>Chapter 4</b> (Article 3)	<b>Work from Anywhere: Traditional Workation, Coworkation and Workation Retreats: A Conceptual Review</b> Voll, K., Gauger, F. & Pfnür, A. (2023). <i>World Leisure Journal</i> , 65(2), 150–174. <a href="https://doi.org/10.1080/16078055.2022.2134199">https://doi.org/10.1080/16078055.2022.2134199</a>	<b>Published</b>
<b>Chapter 5</b> (Article 4)	<b>Employees' intention to adopt the digital workplace – the role of companies in promoting the digital transformation</b> Voll, K., Bachtal, Y. & Pfnür, A. (2024). In M. Orel, Černe, M. & Wong, S. I. (Eds.), <i>Humanizing the Digital Workplace: Creativity, Innovation, and Leadership in the Age of Technology</i> (ahead of print). Springer Nature.	<b>Accepted</b>
<b>Chapter 6</b> (Article 5)	<b>Flexible Workplace Management – A Dynamic Capabilities Perspective</b> Voll, K. & Pfnür, A. (2024). <i>Schmalenbach Journal of Business Research</i>	<b>Submitted</b>

During the time as research assistant at the Technical University of Darmstadt further research articles have been published or submitted for publication. However, these articles are not part of this thesis:

1. Voll, K., Höcker, M. C.; Bachtal, Y. & Pfnür, A. (2024). Identification of employee workplace choice determinants – A Best-Worst scaling study. (*Submitted to Proceedings of the 4th Transdisciplinary Workplace Research Conference*)
2. Höcker, M. C., Voll, K., Bachtal, Y. & Pfnür, A. (2024). Return to Office: The importance of the physical workplace and organisational culture. (*Submitted to Proceedings of the 4th Transdisciplinary Workplace Research Conference*)
3. Höcker, M. C., Bachtal, Y., Voll, K & Pfnür, A. (2024). Healthy, healthier, hybrid work: The burnout-reducing potential of remote work and the mediating effect of work autonomy. (*In Revision to International Journal of Workplace Health Management*)

- 
4. Bachtal, Y., Voll, K., Gauger, F & Pfnür, A. (2024). The power of place: The impact of real estate on work success when working from home. In Bachtal, Y., *The efficiency scope of work from home: A multidimensional approach and the significance of real estate* (pp. 86–112) [Dissertation]. Technical University Darmstadt. <https://doi.org/10.26083/tuprints-00027317>
  5. Bachtal, Y, Lachenmayer, F., Voll, K. & Pfnür, A. (2024). The purchase intention of smart homes and the moderating role of affinity for technology. In Bachtal, Y., *The efficiency scope of work from home: A multidimensional approach and the significance of real estate* (pp. 113–138) [Dissertation]. Technical University Darmstadt. <https://doi.org/10.26083/tuprints-00027317>
  6. Heidt, L., Voll, K. & Pfnür, A. (2024). Agility in hybrid forms of work: The impact on teamwork and work success. In Heidt, L., *Agility and new forms of work: applications, challenges and potentials* (pp. 93–108) [Dissertation]. Technical University Darmstadt. <https://doi.org/10.26083/tuprints-00027305>
  7. Voll, K., Gauger, F. & Pfnür, A. (2023). Turnover intention during COVID-19 – learnings for HR on better understanding the home office. In Henzler, I., Hues, H., Sonnleitner, S. & U. Wilkens (Eds.), *Extended Views. Gesellschafts- und wirtschaftswissenschaftliche Perspektiven auf die Covid 19 Pandemie* (pp. 161–183). Böhlau Köln.
  8. Pfnür, A. & Voll, K. (2023). Büroarbeit der Zukunft. *Denkanstöße - iddiw Hefte zur deutschen Immobilienwirtschaft*, 8, Institut der deutschen Immobilienwirtschaft, 21–26.
  9. Pfnür, A., Voll, K., Höcker, M. C. & Bachtal, Y. (2023). *Von der Pandemienotlösung zum Konzept multilokaler Arbeit– Empirische Studie zu den Erfahrungen der Beschäftigten für eine Zukunft an verteilten Arbeitsorten* (Arbeitspapiere zur immobilienwirtschaftlichen Forschung und Praxis No. 50) Technische Universität Darmstadt.
  10. Pfnür, A., Lachenmayer, F., Bachtal, Y. & Voll K. (2023). *So wohnen wir in Zukunft: Wie der soziodemografische Wandel das Wohnen verändert – Empirische Studie bei privaten Haushalten* (Arbeitspapiere zur immobilienwirtschaftlichen Forschung und Praxis No. 49) Technische Universität Darmstadt.
  11. Pfnür, A., Voll, K., Bachtal Y. & Lachenmayer, F. (2023). *So wohnen wir in Zukunft: Wie die Digitalisierung das Wohnen verändert – Empirische Studie bei privaten Haushalten* (Arbeitspapiere zur immobilienwirtschaftlichen Forschung und Praxis No. 46) Technische Universität Darmstadt.

- 
12. Pfnür, A., Bachtal, Y., Voll, K. & Gauger, F. (2022). *Ökologische Nachhaltigkeit als Treiber der Transformation des Wohnens in Deutschland – Empirische Studie bei privaten Haushalten* (Arbeitspapiere zur immobilienwirtschaftlichen Forschung und Praxis No. 45) Technische Universität Darmstadt.
  13. Gauger, F., Voll, K. & Pfnür, A. (2022). Corporate Coworking Spaces – Determinants of Work Satisfaction in Future Workspaces. *Swiss Journal of Business Research and Practice (Die Unternehmung)*, 76 (1), 64–87. <https://doi.org/10.5771/0042-059X-2022-1-64>
  14. Voll, K. Gauger, F. & Pfnür, A. (2022). CREM perspective on home office—a consideration of the workplace and its mechanisms of action. *Zeitschrift für Immobilienökonomie*, 8(2), 139–171. <https://doi.org/10.1365/s41056-022-00060-4>
  15. Voll, K. & Pfnür, A. (2022). Comparing Home Office Determinants on Personal and Organisational Outcomes in Germany and the U.S.. In Tagliaro, C., Migliore, A. & R. Silvestri (Eds.), *Proceedings of the 3rd Transdisciplinary Workplace Research Conference*, (pp. 442–459), Milan, Italy, 3rd Transdisciplinary Workplace Research Conference, Politecnico di Milano, Italy.

## 1.5 Presentation of the Research Articles

This section provides an overview of this thesis's five research articles<sup>2</sup> by summarizing their research objective, theoretical background, methodological approach, key findings and implications. *Table 2* shows a summary of the respective contents.

### Article 1: Success of Knowledge-based Work and Workplace Choice in Hybrid Work Settings (Chapter 2)

The first research article examines knowledge workers' work success, i.e., satisfaction and productivity in hybrid working environments. Corporates are increasingly executing new cultural change initiatives to get their workforce back into offices, fearing reduced performance as a result of employees' continued interest in remote work. However, both practice and research lack sufficient knowledge about the drivers of work success in hybrid working environments. The study comprehensively analyses job-related, person-related and workplace environment-related factors to identify influences on satisfaction and productivity. In addition, the relationship between workplace choice and work success is

---

<sup>2</sup> The articles for this cumulative doctoral thesis are adopted verbatim. Gender-neutral language is used following the guidelines of the respective journal. The terms used in this thesis refer to all genders.

---

investigated to examine whether companies' anxiousness about slipping performance as a result of hybrid work is justifiable.

The article uses a Best-Worst scaling study to build upon Theory Type III (Theory of Predicting) from Gregor's (2006) theoretical taxonomy. Data from a sample of German knowledge workers ( $N = 1,112$ ) stating the least and most affecting factors for either satisfaction, productivity or workplace choice is experimentally manipulated between subjects to examine how far the factors affect the outcome variables.

The correlation analyses demonstrate that knowledge worker work success and workplace choice are highly related. In particular, job-related factors, such as independent decision-making in everyday working life, are identified as most affecting satisfaction, productivity, and workplace choice, and two person-related factors are also particularly influential. In conclusion, the cross-sectional aspects included in examining the factors of the target variables, work success and workplace choice, provide a more holistic perspective on work success and workplace choice in hybrid working environments than they did previously. The implications are relevant for all companies looking for a fruitful workplace strategy that fulfils the desire of employees to choose their workplace flexibly and simultaneously promotes a good mix of remote and in-office work, alleviating anxiety on the part of employers. Furthermore, the results are relevant beyond the real estate community by informing the IS community about which factors need to be addressed for the targeted development of ICTs to support knowledge-based hybrid work.

### **Article 2: Is the success of working from home a matter of configuration? – A comparison between the United States and Germany using PLS-SEM (Chapter 3)**

The second research article focuses on employees' work success when working from home. The mechanisms and factors influencing employee outcomes are in the center of attention. Therefore, the research model includes four workplace characteristics (isolation, family-work interference, equipment/facilities, and skill variety) and four employee outcomes (satisfaction, burnout, productivity, and turnover intention). In addition, a cross-national analysis is conducted to reveal country-specific differences in the degree of influence of workplace characteristics.

The Job Demands-Resources (JD-R) and Environmental Demands-Resources (ED-R) models provide the basis for conceptualizing the workplace at home. JD-R Theory is an occupational psychology model for stress research which can be used to explain the effects of positive and negative conditions in work contexts. Survey data of  $N = 429$  German and  $N = 507$  American



---

employees are analyzed with partial least squares structural equation modelling (PLS-SEM) and multigroup analysis (MGA) to detect dependencies and differences.

The results reveal that the workplace characteristics of isolation, family–work interference, equipment/facilities and skill variety influence employee outcomes of performance (productivity) and organizational commitment (turnover intention) through attitudes (satisfaction) and health (burnout). Furthermore, there are significant differences between the United States and Germany, two countries with different (work) cultures and different lengths of experience with working from home. The workplace characteristics, therefore, vary in their influence on employee outcomes between the two countries under consideration. In drawing greater attention to the relevant factors supporting and impeding employee outcomes, corporate real estate managers can use the knowledge from this study to design their employees' work from home experience more successfully.

### **Article 3: Work from Anywhere: Traditional Workation, Coworkation and Workation Retreats: A Conceptual Review (Chapter 4)**

The third research article analyzes workation as a new type of third-place work in hybrid environments. The research goal is to provide a coherent descriptive basis, definition and classification of workation, whereby a case study provides empirical evidence.

The conceptual analysis reveals workation to be location-flexible work, where the domains of work and vacation blend through a combination of private and business life. Despite the unifying goal of high work–life–leisure integration by temporarily working in a vacation location, three types of workation (traditional workation, coworkation, and workation retreat) are categorized, and their characteristics are presented. Furthermore, the effects on participating industries and players, such as real estate assets and operators, are analyzed.

The article draws new, critical attention to this special form of workplace. By offering the first taxonomy of workation, the explorative study provides the starting point for further research. Therefore, it contributes to workplace research and opens up new streams of studies regarding work–leisure activities and venues. The detected benefits of this third workplace include a greater ability to connect people professionally and increased regional business opportunities. Practically, both the tourism and real estate industries can become more active in this specific area of shared workspace provision to reap said benefits.

---

---

#### **Article 4: Employees' intention to adopt the digital workplace – the role of companies in promoting the digital transformation (Chapter 5)**

The fourth research article examines the digital workplace as a technology-supported component in a company's workplace strategy that enables temporally- and locationally-distributed knowledge work. The digital space extends the physical workplaces in hybrid working environments. By introducing digital workplaces, companies enable individuals and teams to access company resources from wherever they are and to collaborate in a hybrid manner. The article focuses on how companies can accelerate the employee adaptation process once the digital workplace has been introduced.

The analysis draws on Diffusion of Innovation Theory, explaining how a technology gains momentum and spreads within a population group. The research specifically aims to identify the key factors influencing the intention to adopt the digital workplace on different levels (individual, corporate, and social). Factor and regression analyses with  $N = 351$  knowledge workers reveal consumer innovativeness, technology commitment, technical infrastructure, corporate governance, corporate communication, and change management as significant predictors of the intention to adopt the digital workplace.

The article extends scientific knowledge in innovation and workplace research. In addition, the practical implications support the management of companies in successfully undergoing digital transformation. Using the digital workplace, employees support their work given the resulting increase in spatial flexibility. The digital workplace also helps to compensate for the potential reduction of the physical office workspace.

#### **Article 5: Flexible Workplace Management – A Dynamic Capabilities Perspective (Chapter 6)**

The last research article investigates the ability of companies to adapt to the new and dynamic environment of hybrid working through flexible workplace management. Dynamic capabilities (DC) theory is applied to develop a framework for flexible office space planning by sensing, seizing, and transforming resources. The framework aims to help organizations use their office space as a resource to support employees in working successfully and make the organization more adaptable to changing business environments.

A case study is conducted to show the application of the developed framework and enhance its scientific usefulness. The company under consideration is based in Germany, and  $N = 754$  knowledge workers participated in the survey. The data is used to carry out a cluster

---

analysis that identifies different work types (all-rounders, project workers, desk workers, communicators, thinkers, and hands-on) with varying work modes among the employees. Based on the results, a modified office space division is calculated for the diverse workforce of the company.

This article contributes to existing workplace literature by presenting a framework for managing real estate resources to maximize future capabilities in dynamic environments. In practice, the case study and resulting approach illustrate how companies can implement people-centered office spaces and improve flexible management in hybrid working environments by understanding the different work types and work modes in their workforce.

Table 2: Summary of the Research Articles

Article	Workplace	Topic/Research Question	Theory	Method	Main Contributions
1	Hybrid Working Environments	How do satisfaction and productivity and workplace choice relate in the new hybrid work setting? Which factors should be considered by companies at the same time to influence work success and workplace choice positively?	“Theory for Predicting” (Theory Type III)	Best-worst scaling study	Measurement of the relation between satisfaction, productivity and workplace choice. Examination of the importance of working environment-related, job-related and person-related factors for employee work success and workplace choice.
2	Working from Home	How does the home workplace characteristics (isolation, family–work interference, equipment/facilities, and skill variety) impact employee outcomes (satisfaction, burnout, productivity, and turnover intention)?	Job Demands–Resources and Environmental Demands–Resources Theory	Partial least squares structural equation modelling and multi-group analysis	Working from home success is a matter of configuration. All included characteristics significantly influence employee outcomes and the results vary between the two nations under consideration, Germany and the United States.
3	Third Places, i.e. Workation	How can the new phenomenon of third workplaces at vacation destinations be conceptualized? Giving an overview of workation.	<i>Non – Construction of a taxonomy</i>	Conceptual analysis (qualitative content analysis) and case study	Provision of a coherent descriptive basis, definition and classification of workation based on first empirical evidence by outlining a case study.
4	Digital Workplace	Which factors determine an employee’s intention to adopt the digital workplace and how can corporates influence those factors?	Diffusion of Innovation and Adoption Theory	Factor and regression analyses	Uncovering the key factors on the individual, corporate and social level influencing the intention to adopt the digital workplace.
5	Office	How can companies react flexibly to changing office requirements in the hybrid working environment?	Dynamic Capabilities Theory	Case study, cluster analysis and framework development	Proposition of a unique framework for flexible workplace management by sensing, seizing, and transforming resources to determine the office space allocation of a company for different work types.

---

---

## 2 Article 1: Success of Knowledge-based Work and Workplace Choice in Hybrid Work Settings

---

Title: Success of Knowledge-based Work and Workplace Choice in Hybrid Work Settings<sup>3</sup>

Authors: Kyra Voll, Technical University of Darmstadt, Germany  
Martin Christian Höcker, Technical University of Darmstadt, Germany  
Yassien Bachtal, Technical University of Darmstadt, Germany  
Andreas Pfnür, Technical University of Darmstadt, Germany  
Christian Schlereth, WHU Otto Beisheim School of Management, Germany

Submitted to: Proceedings of the International Conference on Information Systems 2024

### Abstract:

Even after COVID-19, many employees decide to work primarily from home. However, some companies are again trying to bring about a new cultural change that leads to hybrid work settings. Value retention and the need to offer workplaces that promote satisfaction and productivity are crucial for companies to be competitive and survive in the talent war. This paper studies which factors are responsible for workplace choices and how these factors relate to productivity and satisfaction. Using a Best–Worst (BW) scaling study, a German sample ( $N = 1,112$ ) is analyzed. The result benefits IS research on hybrid work settings by showing which factors companies should concentrate on. The good news for companies is that the factors driving productivity, satisfaction, and workplace choice are closely interconnected. However, implementing these factors hinges on committed, enduring efforts to nurture a positive workplace environment that is fundamentally linked to both job-related and person-related factors.

### 2.1 Introduction

Accelerated by the pandemic, knowledge work is becoming increasingly digital and, as a result, it is increasingly based on information systems (Wang et al., 2020). To date, information and communication technologies (ICTs) are crucial for executing knowledge work (Harris et al., 2022). In particular, their development enables knowledge-based work to be performed independently of a specific workplace. However, employees seem to prefer

---

<sup>3</sup> This is a version of the article submitted to the Proceedings of the International Conference on Information Systems 2024.

---

workplaces where they can work successfully (Spivack/Milosevic, 2018). At first glance, this is a positive signal for companies interested in successful employees, but it also indicates that the physical work location appears to influence work success (Bloom et al., 2015; Fonner/Roloff, 2010). But what if, in times of a shortage of skilled workers, employees want to work remotely while companies would rather see them working in the office? Even if both parties strive for success, individual work success, i.e., satisfaction and productivity, and company success, managing and working in hybrid work settings, i.e., blending remote and in-person work in the office (Vermani/Sharma, 2021; Piechatzek, 2023), can lead to a tense environment. For example, it requires the mental adjustment of employees and management to the new situation, and the execution of leadership and teamwork at a distance. Therefore, workplace strategies and ICT systems require sophisticated attention (Suravi, 2024). So far, little is known about work success in hybrid work settings and even less about the reasons based on which knowledge workers choose their workplace; hence, the interest of companies and researchers is piqued (e.g., Weritz et al., 2022). While the boundaries between private life and work domains blur in hybrid work settings (Yang et al., 2023), research discusses integrating individual information systems with business information systems (Lanzl et al., 2024). Nevertheless, the development and design of ICT systems to enable successful hybrid work is still based on many yet unknown factors. Without knowing which factors influence knowledge workers' work success in hybrid work settings, the systems cannot optimally support employees' work.

Employee work success is essential for companies as it drives company success. However, the demographic change makes it increasingly difficult for companies to find well-trained talent in the labor market. In addition, these knowledge workers have higher demands regarding their spatial flexibility at work (Dery et al., 2017; Marx et al., 2023). Many knowledge workers want to continue to work from home following their experience during the COVID-19 pandemic. The large number of people still working remotely has led to debates about improving employees' performance through the workplace and remote working, and discussions about vacant offices (O'Connor et al., 2022). Amid this dilemma of a difficult economic situation, with the need for productive employees and increasing demands for flexibility, some companies are making a paradigm shift and joining a return to office movement (Appel-Meulenbroek et al., 2022; Ding/Ma, 2024). While companies share the ostensible hope of bringing employees back to the office (Ding/Ma, 2024), employees are neither interested in working fully remotely nor returning to the office entirely, which is associated with higher stress (Hoskins, 2021; Kane et al., 2021).

---

Instead, research shows that knowledge workers expect to be treated as independent and search for working environments that respect their well-being (Meske/Junglas, 2021; Asatiani/Norström, 2023). On the one hand, the threat of being forced back into the office by corporate orders and the employees' desire for spatial flexibility, i.e., the freedom to choose the workplace, appears to give rise to a substantial conflict of interests. Previous research suggests that offering hybrid work settings gives companies a competitive advantage and could offer a solution (Piechatzek, 2023). However, only well-thought-out workplace strategies enable work success for individuals and offer potential for companies and the economy (Altman et al., 2021; Subel et al., 2022).

Various disciplines, including IS, discuss work success mainly secluded from each other (Asatiani/Norström, 2023). Different research fields are investigating the reasons for work success and the triggers for challenges in hybrid work settings (Hill et al., 2003; Weber et al., 2022; Weritz et al., 2022). Several factors determining work success have already been identified and occur in three categories: job-related, person-related, and workplace environment-related factors (e.g., Krupper, 2015; Asatiani/Norström, 2023). However, there is a lack of research on workplace choice and its determining factors (Appel-Meulenbroek et al., 2022). Furthermore, it remains unclear whether there is a connection between satisfaction, productivity, and workplace choice.

This study addresses this recent interest in theory and practice. Based on previous research on the factors influencing work success at different workplaces, the first research question examines: (RQ1) How do satisfaction and productivity relate in the new hybrid work setting? In addition, to the best of the authors' knowledge, this study, for the first time, examines the possible relation between factors of work success and workplace choice. Therefore, the second research question aims to determine: (RQ2) How does workplace choice relate to satisfaction and productivity? In addition, a detailed look is taken at the influencing factors in order to answer the third research question: (RQ3) Which workplace environment-related, job-related, and person-related factors are of relevance for system design in hybrid work settings and should be considered by companies at the same time to influence work success and workplace choice positively? A Best–Worst scaling study is performed with  $N = 1,112$  German knowledge workers. This study experimentally manipulates between subjects to what extent the factors affect either satisfaction, productivity, or workplace choice (Louviere et al., 2013).

Insights gained from this study add to IS research and are particularly interesting for corporate practice. In manifold ways, the results help corporates understand what the development and design of ICT systems should aim at to enable hybrid work so that the

---

influencing factors of successful hybrid work are supported in the best possible way. In addition, the results help better understand how work success arises in hybrid work settings and how this is linked to flexibility in workplace choice. First, building upon theory type III (theory of predicting) from Gregor's (2006) theoretical taxonomy, this research demonstrates through correlation analyses that the factors of work success and workplace choice are highly related. Second, this study identifies job-related factors as most affecting satisfaction, productivity, and workplace choice, whereby the two person-related factors of concentration and work-life balance are also particularly influential. In conclusion, the high correlation might be good news for companies and ICT system developers. The same factors determine work success and workplace choice; thus, companies and developers can simultaneously address both. However, the results could also be bad news because quick wins regarding the most affecting factors take much work.

The paper starts with a review of the literature related to work success and workplace choice in hybrid work settings, and then derives the hypotheses and introduces the experiment's setup before reporting the results. The conclusion includes the limitations and further research avenues.

## **2.2 Theoretical Background**

### **2.2.1 Satisfaction and Productivity as Measures of Work Success**

The work success of employees significantly influences organizational performance. For this reason, researchers and practitioners are interested in understanding how employees can work successfully to achieve economic success. It has already been scientifically proven that work success is determined by employee attitudes and work outcomes (Yalabik et al., 2013). Employee satisfaction is a frequently considered attitude (Judge et al., 2001; Rich et al., 2010; Yalabik et al., 2013). Satisfaction is understood as the person-environment fit, i.e., the extent to which the work fulfills and reflects a person's expectations (Locke, 1976). In addition, an important work outcome is productivity, defined as the ratio of an output, i.e., the work result, and the input resources used to achieve the output (Brinkerhoff/Dressler, 1990). Job, personal factors, and work environment influence satisfaction and productivity (Krupper, 2015).

Companies, therefore, can positively influence the work success of their employees by changing person-related, job-related, and work environment-related factors. The working environment is a frequently used tool in this context. As the physical workplace influences employee satisfaction and companies' economic success (Croon et al., 2005), work success is considered a component of a fruitful corporate real estate strategy at the level of the



---

individual employee (Pfnür et al., 2021b). Interest in the relationship between employee attitudes and work outcomes at the workplace goes far back (Brayfield/Crockett, 1995). Thus, employee attitudes and work outcomes, reflected by satisfaction and productivity, are frequently examined in workplace research (e.g., Haynes et al., 2017; Yunus/Ernawati, 2018). Separate research on the different workplaces (work from home, office, third places) frequently utilizes satisfaction and productivity as indicators of employees' work success (e.g., Contreras et al., 2020; Weber et al., 2022; Clifton et al., 2022).

The growing interest in hybrid work settings in the IS community means that the research areas overlap and could benefit from each other. Despite the frequent observation of the relationship between satisfaction and productivity, especially in psychology and workplace research (Judge et al., 2001), research of hybrid work settings lacks data and analysis to fully understand the factors determining satisfaction and productivity, and their relation (Subel et al., 2022).

### **2.2.2 Hybrid Work Settings Enable Flexibility in Workplace Choice**

Portable and networked technologies allow employees to work mobile without locational boundaries (Aroles et al., 2021). Enabled by the continuous development of ICTs, mobile work is not only technically possible, but their use positively influences work (Brust et al., 2022). Various workplace settings, such as tele- and remote work, have been discussed extensively in IS research (e.g., DeSanctis, 1984; Subel et al., 2022). In addition to technological progress and the influence of digitalization, several other work trends have emerged. First, the workforce is shifting demographically, causing a shortage of skilled workers. This development directly impacts companies, as they have to compete more intensively for the demanded talent. Second, the greater workforce diversity and the younger, up-and-coming generation are placing higher demands on employers by calling for flexibility (Dery et al., 2017).

Researchers and practitioners face the challenge of a unified understanding of flexibility. Recently, hybrid work has been increasingly understood as a concept that incorporates most flexibility characteristics, namely, that employees can decide where, when, and how long they work (Klaser et al., 2023). To respond to the demand for spatial flexibility, companies need to include remote work (e.g., work from home or in coworking spaces) in their workplace strategy in addition to the office, resulting in a hybrid work setting (Bouncken/Gantert, 2021). For employees, the ability to work hybrid while always being connected to their company and colleagues via their ICTs often comes with the responsibility of choosing their workplace.

---

To date, only a few studies deal with why or why not to work at a particular workplace, calling for further research (Baruch/King Joan Yuen, 2000; Ross/Ressia, 2015). Among the recognized drivers for the observed workplace choice are, e.g., desire for proximity to colleagues/group identity or collaboration and indoor environmental quality factors, including noise. When focusing on the mix between physical and digital work, knowledge about why employees choose a workplace is limited (Weritz et al., 2022). In the context of hybrid work settings, it has only been investigated which workplace characteristics are decisive for communicative or concentrated work when choosing a workplace (Appel-Meulenbroek et al., 2022; Yang et al., 2023). Further, Smite et al. (2023) recognize that a person's personality influences which workplaces are preferred when allowed to choose where to work flexibly. Still, research lacks an in-depth understanding of hybrid work settings where employees can flexibility choose where to work without compromising their productivity and satisfaction (Asatiani/Norström, 2023).

### **2.3 Framework and Hypotheses Development**

This section develops a theoretical framework to underpin how satisfaction, productivity, and workplace choice relate. The study constructs on the understanding of theory from Gregor's (2006) theoretical taxonomy, with a particular focus on his theory type III ("Theory for Predicting"). This theory discovers previously unknown regularities to predict outcomes from a set of explanatory factors without determining the underlying causal connections between the dependent and independent variables (Gregor, 2006).

In short, parts of the system remain a "black box" and correlation analysis is used to discover and test formerly unknown regularities between satisfaction, productivity, and workplace choice. Besides, it also examines the factors that have the most significant impact on these regularities; however, it observes them only in an exploratory way, leaving out why specific factors are more strongly related to satisfaction, productivity, and workplace choice than others.

Flexibility in choosing where to work and hybrid work settings are associated with positive work outcomes for employees, economic benefits, and an increase in attractiveness for employers (Piechatzek, 2023). This study examines the relationship between work success and workplace choice based on this insight. Two hypotheses are derived from the literature on satisfaction, productivity, and workplace choice in hybrid work settings. In line with the theoretical understanding of type III theory (Gregor, 2006), this study reveals the relation between determining factors of productivity, satisfaction, and workplace choice. However, the reasons for the different relevance of factors for success and choice are not investigated.

Figure 4 visualizes the relationships to be examined.

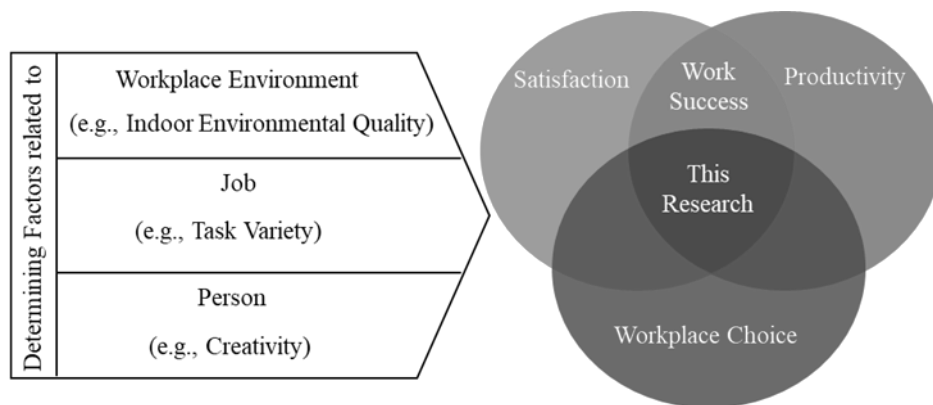


Figure 4: Assumed relations among satisfaction, productivity and workplace choice

A suitable workplace can make a valuable contribution to the success of companies by helping employees perform their work to the best of their ability (Armitage/Nassor Amar, 2021). Yet, individual differences in workplace design affect the performance and attitudes of employees differently, depending on the person (Lindberg et al., 2016). Therefore, knowing how the workplace influences employees' work success is paramount for companies. The workplace comprises not only physical environmental components; job-related and person-related aspects are also important (Appel-Meulenbroek et al., 2022). Due to the various influencing factors, various research disciplines have focused on the workplace and its impact on work success.

Usually, these studies only look at individual factors influencing satisfaction or productivity. Furthermore, some frameworks seek to map the black box of factors determining employee work success in a specific workplace setting. However, to the best of the author's knowledge, there is little research on this topic in hybrid work settings. The following frameworks that explain work success when working in the office and remotely are explored to investigate the relationship between determining factors of satisfaction and productivity in hybrid work settings with the different workplaces available.

First, in the occupier-based valuation of office properties, a theoretical framework for the interrelationships between building, business, and behavior exists (Krupper, 2015). The model states that several factors influence the satisfaction and productivity of employees. Those factors can be classified on a continuum within three dimensions: working environment, job, and person. Another framework for understanding the system between employees and the work environment is the office-ecology model (Windlinger/Lange, 2021). Among other things, it assumes interactions between work environment-related factors, job-related, and the person to be optimally coordinated with each other in a successful system. Thus, the design and management of work settings must focus on integrating factors of those

---

three categories. Furthermore, research on workspace design for activity-based working and its impact on worker productivity and satisfaction also identifies similar categories. Especially for the future of work after the pandemic, success depends on the connections of these three pillars: job, person, and work environment (Marzban et al., 2023).

Second, regarding teleworking, Weber et al. (2022) use an application of the socio-ecological framework to the home workplace to analyze the influences on employees' perceived productivity. According to their results, work success is again influenced by person-related and job-related factors, and the work environment. Previous models and findings on the success of tele- and homeworking also include the work environment, the job, and the person as areas of influence (Baruch/Nicholson, 1997; Baruch/King Joan Yuen, 2000; Heidt et al., 2023). In addition, Asatiani and Norström (2023) identify three base characteristics for the greater workplace context that influence remote work success: person-related, work environment, and job characteristics.

The frameworks and models shown for assessing work success at the different workplaces of the hybrid work setting display a distinctive generality. Remarkably, the factors that influence satisfaction and productivity can be summarized in a few central categories: (1) work environment-related, (2) job-related, and (3) person-related. Thus, based on this correspondence of aspects, the first hypothesis (H1) is:

*H1: The factors influencing the work success components satisfaction and productivity in hybrid work settings are highly related.*

Turning the attention to workplace choice, it can be observed that hybrid work settings offer spatial flexibility and, therefore, the advantage that knowledge workers can choose where they want to work. Flexible workplace choice has been associated with positive employee outcomes (Piechatzek, 2023). Scientific evidence further recognizes that knowledge workers can select a suitable workplace according to their needs and preferences to work successfully (Spivack/Milosevic, 2018). To date, there has been little research on workplace choice. However, companies should be interested in more than just the factors of work success. To make an informed decision about their hybrid work setting, they should also know why one workplace is preferred over another. Without this knowledge, a change in workplace strategy with a reduction in flexibility of workplace choice or a cultural change toward mandatory return to the office can have a negative impact on employee satisfaction and productivity.

In one of the first studies on hybrid work settings and the investigation of criteria that attract employees to return to the office, Appel-Meulenbroek et al. (2022) identify employee segments with specific workspace choice preferences. These segments are explained by

---

personal, job-related, and workspace environment characteristics. The identified categories align with previous research on flexible offices, which tries to understand what determines employees' workplace choices. Wohlers and Hertel (2017) develop a theoretical framework to analyze how workplace environment-related, job-related, and person-related factors influence employees' work success when choosing between different workplaces in the office. Drawing upon the insights from Spivack and Milosevic's (2018) research, which highlights employees' inclination toward environments fostering satisfaction and productivity, there arises a presumption of a correlation between workplace preferences and professional achievements within hybrid work arrangements. Thus, hypothesis (H2) is derived:

*H2: The factors influencing workplace choice also highly relate to factors of satisfaction and productivity.*

## **2.4 Methodology**

The experimental study used to test the hypotheses applies the BW scaling method, case 1 (Hinz et al., 2015; Louviere et al., 2013; Louviere et al., 2015). The BW scaling method was first presented in 1992 and originated from the method of paired comparison to multiple choices (Finn/Louviere, 1992; Kaufmann et al., 2018). Due to its foundation in random utility theory, the analysis has a broad theoretical and mathematical foundation (Thurstone, 1927).

Respondents select the best and worst items from a given set of choices. The offered choices, best and worst, reflect the two extremes of a continuum (Louviere et al., 2015). Thus, the participants make selection decisions by weighing the attractiveness of different items. Each item reflects a workplace environment-related, job-related, or person-related factor. Formulating the items as concretely and exemplarily as possible facilitates the selection process. Observation of the decisions is performed by counting the best and worst choices. Based on those numbers, individual and aggregate preference estimates and the relative importance of attributes are determined (Finn/Louviere, 1992).

As a variant of discrete choice experiments (e.g., Schlereth/Skiera, 2017; Hauser et al., 2019), this method enables researchers to measure peoples' preferences within several items. While a variety of attributes can be queried, the unique outcome of the method is the determination of a ranking of the included items (Finn/Louviere, 1992; Beisecker et al., 2024). Compared to other survey forms (e.g., ranking or Likert-scale surveys), the method offers high discrimination power because respondents must trade-off the different items

presented to them and it does not suffer from cultural norm patterns (Baumgartner/Steenkamp, 2001).

### 2.4.1 Item Selection

As far as the authors are aware, there is no empirical study to date that examines which factors significantly influence employees' productivity, satisfaction, and workplace choice in hybrid work settings. For this reason, the focus is on the 34 selected items listed in Table 3, which according to the literature review turn out to be already investigated topics in workplace, psychology, human resources, and IS research affecting work success or workplace choice. Factors from the three categories workplace environment-related (12 items), job-related (12 items), and person-related (10 items) are included.

Table 3: Factors descriptions (translated from German language)

Factors related to		
Workplace Environment	Job	Person
<i>Accessibility:</i> Good transport connections to the place of work	<i>Team collaboration:</i> Pleasant interaction in the team	<i>Creativity:</i> Creative work possible
<i>Location:</i> Short way to the place of work	<i>Social environment:</i> Successful cooperation with colleagues	<i>Innovation:</i> Innovative work possible
<i>Surroundings:</i> Offers of daily needs in the immediate vicinity of the place of work	<i>Corporate culture:</i> Identification with the values of the company	<i>Communication:</i> Communicative work possible
<i>Attractive work environment:</i> Attractive design of the workplace	<i>Relaxed working atmosphere:</i> Stress-free work environment	<i>Concentration:</i> Concentrated work possible
<i>Spatial conditions:</i> Suitable space at the place of work for all activities	<i>Flexible working environment:</i> Flexible organization of the working day in terms of time and location	<i>Experience:</i> New experiences at work
<i>Privacy:</i> Privacy at the workplace	<i>Autonomy of decision-making:</i> Independent decision-making in everyday working life	<i>Conscientiousness:</i> Conscientious completion of work
<i>Equipment and furniture:</i> Ergonomic chair and desk	<i>Autonomy of work scheduling:</i> Independent planning of tasks to be completed	<i>Belonging:</i> Social participation in a social group
<i>Indoor environmental quality:</i> Pleasant light, air, noise, and temperature conditions	<i>Task variety:</i> Varied tasks	<i>Work-life balance:</i> Compatibility of challenges in private and professional life
<i>Technological equipment:</i> Equipment consisting of modern technical devices with fast internet connection	<i>Skill variety:</i> Tasks that challenge to use skills and abilities	<i>Cooperativeness:</i> Cooperative working environment
<i>Services:</i> Attractive additional offers at the workplace	<i>Further education:</i> Enabling training and further education	<i>Recognition:</i> Recognition of my work results by colleagues and superiors
<i>Biophilic design:</i> Plants and windows with a view of the greenery	<i>Activities:</i> Interest in the activities	
<i>Health and safety:</i> Healthy and safe working environment	<i>Workload:</i> Well manageable amount of work in terms of time and quantity	

---

## 2.4.2 Experiment Setup and Sample

The BW scaling experiment aims to identify the factors that most influence employees' productivity, satisfaction, and workplace choice. The sample is gathered through Clickworker, a platform for generating fast and reliable responses (Lutz, 2016). All participants had to have experience with hybrid work. 1,136 German knowledge workers complete an online survey at the beginning of 2023. After data cleaning the final sample consists of 1,112 respondents (503 female; Mage = 37.13 years).

The BW scaling task is experimentally manipulated: Thereby, respondents are randomly assigned to one of the three conditions (between subjects), under which they assess the presented factors related to satisfaction (N = 378), productivity (N = 384), and workplace choice (N = 350). Figure 5 illustrates an exemplary choice set of the variant that asks which factor least and which most affects satisfaction.

---

My satisfaction is least affected by the fact that ...	My satisfaction is most affected by the fact that ...
	... an ergonomic chair and desk are available to me.
X	... my place of work has suitable space for all my activities.
	... the challenges in my private and professional life can be easily combined.
	X

---

Figure 5: Experiment setup: example choice set in variant 1 – satisfaction

In total, 34 items are included (see Table 3). Following Kaufmann et al.'s (2018) approach for a long list of items, each respondent was assigned to a randomly drawn subset of nine out of the 34 items. These items were presented to the respondents in twelve choice sets, each containing three items. A level-balanced and orthogonal design is used. This means that each of the nine items appeared exactly four times with a pairwise frequency of one. Thereby, the order of the choice sets and the order of the alternatives are randomly varied to avoid potential order effects.

To analyze respondents' preferences, the count method as suggested by Louviere et al. (2015) is employed. The so-called BW scores, i.e., individual or aggregated sample preference estimates, are calculated by the difference between the amount of time a respondent chose an item as best and worst (Finn & Louviere, 1992; Beisecker et al., 2024). Each item appears four times. Therefore, each item can generate BW scores ranging between  $-4$  and  $+4$  ( $= 12 \times 3 / 9$ ) (Beisecker et al., 2024). After estimating the BW scores, they are standardized between 0 (least affecting factor) and 100 (most affecting factor) to normalized BW scores (Louviere et al., 2015). This technique of analysis is possible due to the level balance and orthogonality properties of the design. To test the hypothesis, the relation

---

between the normalized BW scores of the items for productivity, satisfaction, and workplace choice are statistically tested using the Pearson correlation coefficient.

## **2.5 Results**

### **2.5.1 Consistency**

For knowledge workers, work success in the form of satisfaction and productivity is a tangible measure. However, many knowledge workers have only been able to flexibly choose their workplace recently since hybrid work settings have become established. With the aim of finding out whether the experiment is understood and whether the participants are credibly aware of the factors most affecting their productivity, satisfaction, and workplace choice, the consistency of the respondents' choices in the BW scaling experiment is examined for all three variants of the experiment (Beisecker et al., 2024).

Here, the idea is simple: summing up respondents' squared BW scores across all items informs how consistent the respondent was in their decision-making. A value close to 0 indicates random decision-making. The highest consistency measure, i.e., a perfectly consistent respondent, equals 60 ( $= 2 * 42 + 2 * 32 + 2 * 22 + 2 * 12$ ). The mean value of the consistency measure over all three variants is 52.16. The comparison of the variants detects the highest consistency measure for productivity (52.76) followed by satisfaction (52.71). For workplace choice, a slightly lower value of 50.90 occurs. These differences in the consistency measures by variant are statistically significant ( $F(2, 1,109) = 3.47, p < .05$ ).

### **2.5.2 Correlations**

The relation between the normalized BW scores of the three variants is observed through the Pearson correlation coefficients (see Table 4). In IS, the use of correlation analysis to empirically test hypotheses is consistent with Gregor's (2006) understanding of type III theory. Therefore, the correlations between the mean BW scores of the different experiment variants are analyzed. Regarding work success, the statistical test shows a correlation of .93 ( $p < .01$ ) between satisfaction and productivity. This high correlation supports the first hypothesis (H1) and suggests that satisfaction and productivity highly relate in hybrid work settings. Furthermore, the normalized BW scores are also highly correlated between workplace choice and work success. A Pearson correlation coefficient of .87 ( $p < .01$ ) is detected between workplace choice and productivity and a coefficient of .89 ( $p < .01$ ) between workplace choice and satisfaction. Thus, this study finds empirical support for the second hypothesis (H2), suggesting that high workplace choice, satisfaction, and productivity highly relate.



Table 4: Correlations between the mean values of the normalized BW scores

	Productivity	Satisfaction
Satisfaction	.930**	
Workplace choice	.869**	.891**

Note:  $N = 34$ ; \*\*: Correlation is significant at a 0.01 level (2-tailed)

### 2.5.3 Normalized BW Scores

Observation of the BW scaling experiment reveals that the factors with the strongest influence hardly differ within the three variants. This means that satisfaction, productivity, and workplace choice are influenced by very similar factors. In total, only 12 different factors are represented among the ten most affecting factors for productivity, satisfaction, and workplace choice. Figure 6 visualises the normalized BW scores for all items. The bar chart shows the BW scores of the experiment variants satisfaction and productivity. The line presents the BW scores of the experiment variant workplace choice. The table below summarizes their value and reports changes in the ranking conditions between the experimental variants as well as the differences of the normalized BW scores for each item. The possibility to concentrate on work is most affecting for productivity, interest in activities has the highest influence on satisfaction, and the flexible organization of the working day in terms of time and location is most affecting for workplace choice (BW scores = 100.00).

Among the 12 most affecting factors, eight are job-related. Next to interest in activities, for employees, the independent decision-making in everyday working life and the independent planning of tasks to be completed are highly influential. Further, the flexible organization of the working day in terms of time and location and a well manageable amount of work in terms of time and quantity influence satisfaction, productivity, and workplace choice. In addition, pleasant interaction in the team, tasks that challenge to use skills and abilities, and a stress-free working environment are among the most affecting factors. Next to those job-related factors, three person-related factors occur to be influential: the possibility of work concentration, the compatibility of challenges in private and professional life, and a conscientious completion of work. Finally, the most affecting workplace environment-related factor is a healthy and safe working environment.

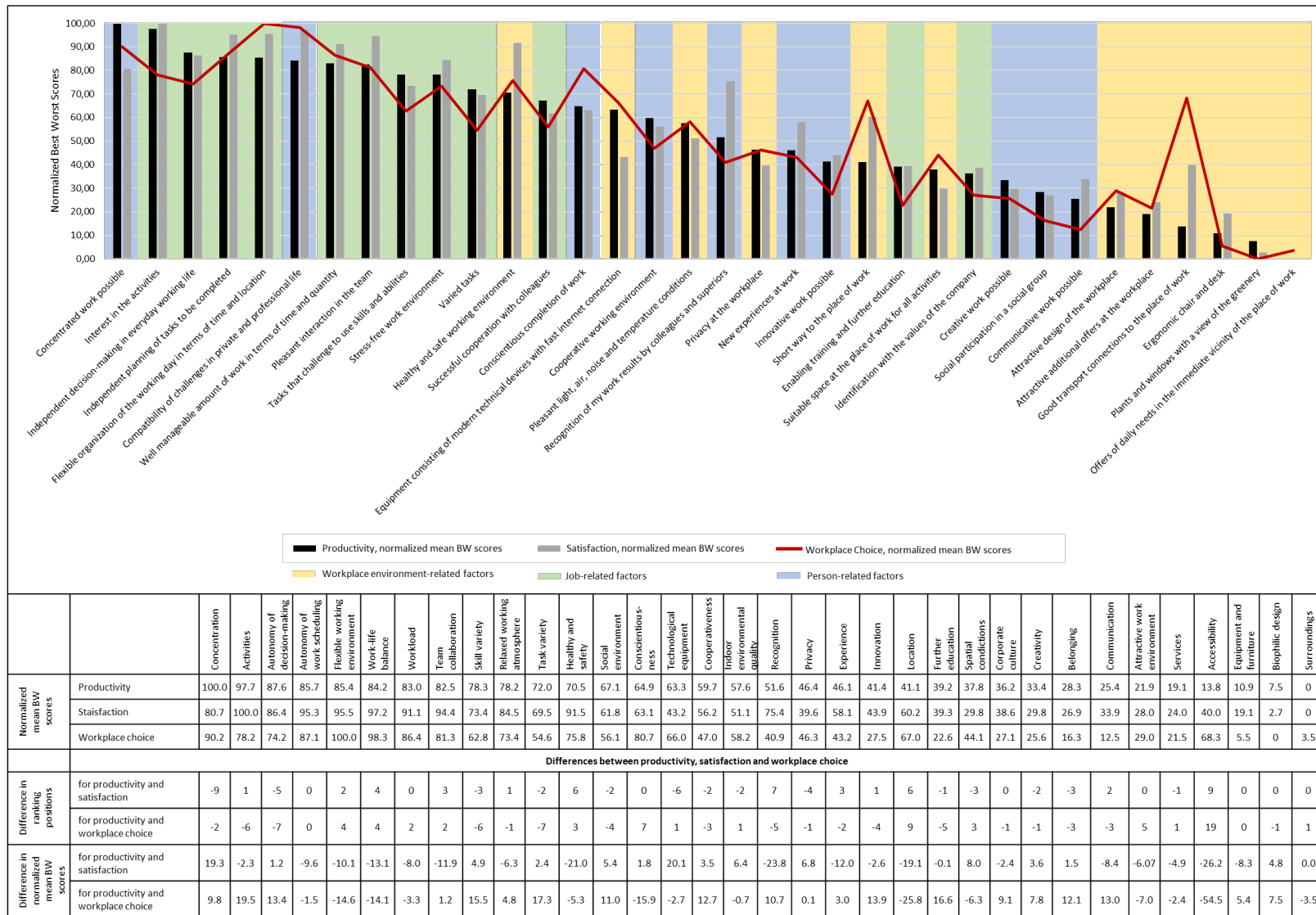


Figure 6: Comparison of the items of all three variant rankings

---

## 2.6 Discussion and Conclusion

To ensure business success in challenging times and, therefore, make the right decisions for a sensible workplace strategy, companies need to understand the needs of their employees, how they work successfully, and why they choose a specific workplace (Hill et al., 2003; Weber et al., 2022; Weritz et al., 2022). This knowledge is also essential for the successful and targeted development and design of ICT systems for knowledge-based work in hybrid work settings. Despite the interest in hybrid work settings, research on the relationship between employees' work success and workplace choice is lacking. The hybrid form of work, where employees work partly from the office and partly remotely, is a relatively new phenomenon, enabled by technological innovations and catalyzed by the COVID-19 pandemic. Therefore, this study aims to determine how satisfaction, productivity, and workplace choice relate to hybrid work settings. In the first step, the study examines whether the already widely recognized relationship between satisfaction and productivity also exists in hybrid work settings by determining their factors (RQ1). It then examines for the first time whether employees' workplace choice is linked to work success (RQ2). Finally, the study observes which workplace environment-related, job-related, and person-related factors system design and companies should focus on to influence work success and workplace choice (RQ3) positively.

The results of the BW scaling experiment provide several valuable insights. The study **contributes to the theory** of hybrid work within IS literature in several ways. First, the consistency scores show that despite the relatively short time employees have been able to work in hybrid settings, they are conscious about what makes their work successful and what they consider when choosing a workplace. The consistency scores of productivity (52.76), satisfaction (52.71), and workplace choice (50.90) are all close to the maximum value of 60, which represents that the experiment was understood and that the factors can be identified in all three variants. The slightly higher consistency score for satisfaction and productivity could be a sign that work success is a more commonly used instrument in studies for measuring work success and that respondents already have a degree of clarity on the factors. The fact that the respondents were asked about their workplace choice for the first time in a survey could be reflected in the lower consistency score for workplace choice compared to the other two variants.

Second, the significantly positive correlation coefficient between satisfaction and productivity (.93;  $p < .01$ ) shows that the factors determining satisfaction and productivity are highly related. As such, the data empirically supports H1. This result confirms previous research on work success at different kinds of workplaces individually and confirms the

---

assumed relation between work success factors. It thus expands existing knowledge of the recognized context for hybrid work settings. Furthermore, this study is among the first to demonstrate a correlation between employee work success and workplace choice. The highly positive and significant correlation coefficients between workplace choice and productivity (.87;  $p < .01$ ) and between workplace choice and satisfaction (.89;  $p < .01$ ) confirm the hypothesized relation of H2 that the factors of satisfaction, productivity, and workplace choice highly relate. Exploring the connection and factors of work success and workplace choice allows for understanding better employee needs in hybrid work settings (Subel et al., 2022). Thus, these research results provide a basis for the development of IS artifacts that not only enable the choice of workplace but also take the factors that influence work success and are essential for knowledge workers in hybrid work settings into account for their design.

Third, the analysis of the normalized BW scores presents an interesting insight (Figure 3). The separate consideration of the top ten most affecting factors from all three variants of the experiment results in an intersection of only 12 different factors. These factors mostly come from job-related factors, two person-related, and one workplace environment-related factor. If one tries to group the aspects to recognize commonalities, then those factors that are related to work autonomy and flexibility emerge in particular. The high relevance of these factors could be explained by the general desire for individualism on the part of a company's employees (Linthorst/de Waal, 2020). Tasks and working environment influence on satisfaction and also play a central role. This result reinforces previous research recommending spatial flexibility to enhance knowledge workers' productivity and satisfaction (Spivack/Milosevic, 2018). Moreover, the study adds to bundling the research on work success, which is fragmented in many areas of IS and other research streams (Asatiani/Norström, 2023) by including workplace environment-related, job-related, and person-related factors together in the analysis. Therefore, the simplistic view of many studies is that work success is only determined by factors from the working environment, the job, or the person being challenged. However, digitalization may ensure that future working environments focus more on how and what job is done (Asatiani/Norström, 2023); the results call for the workplace environment and personal factors to be considered. The development and design of general IS artifacts and ICT systems to enable hybrid work should also promote the identified factors accordingly. For example, system design should develop systems that enable hybrid work in a way that promotes concentration and supports the adequate performance of different activities.

In addition to the theoretical implications, the study provides several **practical contributions**. First, the result of the experimental study is good news for companies, as

---

they learn that similar factors in hybrid work settings determine their employees' work success. It is, therefore, possible to directly impact employee satisfaction and productivity by improving individual aspects. However, no quick win is possible due to the nature of the most critical factors. Instead, the predominant importance of job-related factors requires long-lasting effort and strategy. The high relevance of job-related factors also emphasizes the importance of companies' digital infrastructure. The necessary infrastructure is required so that employees are satisfied with their job-related factors and can work in a successful manner overall. For example, self-determined and flexible working requires optimal supporting technical equipment. In addition, the necessary digital tools are needed for location-independent collaboration in teams. Finally, hybrid working not only calls for technical resources geared toward this. Human resources and management must also be geared toward the new requirements, and, hence, closer integration of IT and HR departments (Offstein et al., 2010) to manage the new hybrid work setting.

The results show that mainly the same factors influence employees' workplace choice and work success. If companies give their employees the freedom to choose the workplace that suits them best, then they will be rewarded by satisfied and productive employees in return. The results thus clearly call for an increase in employee spatial flexibility. Because most of the affecting factors are job-related and, thus, within companies' sphere of action, companies can start to act. In line with this, employees should not be forced back into the office. Instead, corporate real estate management must also support the spatial flexibility of employees in the best possible way. The specific workplace environment-related factors are not strongly represented in the top ten most affecting aspects. Conversely, it can therefore be assumed that the quality of the respondents' workplaces does not vary so much from one another (e.g., between home and office) or that they do not have a dominant negative effect so that they are pushed into the background by a large number of factors. However, the office space does not yet appear attractive enough to influence workplace choice or improve work success significantly. Overall, there is still potential to be realized as offices can contribute to a company's overall success in this way. In the future, offices must provide employees and companies with even better support for the job-related and person-related factors of work success. Therefore, the office can become a more attractive workplace for knowledge workers in a hybrid work setting.

The **limitations** of this study are discussed below. First, the results are based on an experimental study. Therefore, the ranking is limited to the aspects considered in the BW scaling experiment and only the relative importance of these aspects is represented. Although the study deliberately includes aspects from different disciplines, other factors

---

could influence work success and workplace choice (e.g., gender, age, culture, and national differences). Another limitation is the sample size. While the data set provides cross-industry and cross-company insights that make the transferability of the results more robust, a more significant number of respondents could be beneficial. Furthermore, this study only looks at the individual employee level. This perspective may over-represent the importance and weighting of individual aspects, which could be caused by the social trend toward individualization and a focus on individual advantage. Finally, the study only includes satisfaction and productivity to illustrate work success and excludes other components. Workplace choice is also not detailed, so it is impossible to say whether working in the office, working at home, or working in a coworking space is chosen more frequently.

**Future research** should investigate whether and which other factors influence work success and workplace choice. It also needs to be studied whether the results change if the experiment is explicitly conducted at the level of the team or the entire company and not just at the level of the individual employee. The aim is to determine whether team productivity, social interaction, and company performance do not suffer with maximum flexibility in workplace choice and high individual work success. It will be exciting for the IS community to build on this study to investigate how collaboration, innovation, and leadership can succeed at a distance in hybrid work settings.

In **conclusion**, this study proves the connection between employee work success and workplace choice in hybrid work settings. Cross-sectional aspects are included to map the factors of the target variables as holistically as possible. The result benefits IS research on hybrid working: first, it shows that there is also a connection between satisfaction and productivity in hybrid work settings. Second, it clarifies how the factors of work success and workplace choice are related and that companies have far-reaching options for action to support their employees. Thus, companies increase their success in hybrid working settings through their digitalization strategy and adopting technologies that reinforce influential factors. Finally, the results enable the targeted further development of ICT systems for successful hybrid work.

---

---

### 3 Article 2: Is the success of working from home a matter of configuration? – A comparison between the United States and Germany using PLS-SEM

---

Title: Is the success of working from home a matter of configuration? – A comparison between the United States and Germany using PLS-SEM<sup>4</sup>

Authors: Kyra Voll, Technical University of Darmstadt, Germany  
Andreas Pfnür, Technical University of Darmstadt, Germany

Published in: Journal of Corporate Real Estate

#### **Abstract:**

##### *Purpose*

The world of work is constantly changing. The COVID-19 pandemic has reinforced working from home and there is an increasing demand for flexibility regarding the workplace. There is little empirical evidence on the mechanisms and factors that influence employee outcomes, such as productivity and turnover intention, at the workplace at home. In addition, it is unclear whether the workplace characteristics that influence employee outcomes vary between different nations due to country-specific circumstances.

##### *Design/methodology/approach*

The research model applied in this study is based on the Job Demands–Resources and Environmental Demands–Resources models using German ( $N = 429$ ) and United States ( $N = 507$ ) survey samples. Partial least squares structural equation modelling is used to analyse the influence of workplace characteristics (isolation, family–work interference, equipment/facilities, and skill variety) on employee outcomes (satisfaction, burnout, productivity, and turnover intention). Additionally, a multi-group analysis is employed to explore group differences in the factors influencing satisfaction, burnout, productivity and turnover intention between employees in Germany and the United States.

##### *Findings*

The results reveal that significant determinants of productivity and turnover intention include isolation, family–work interference, equipment/facilities, and skill variety. Isolation and equipment/facilities are identified as the most important demands and resources of the home workplace. Some significant differences are found between Germany and the United

---

<sup>4</sup> This is an Author Accepted Manuscript (AAM) of the article Is the success of working from home a matter of configuration? – a comparison between the USA and Germany using PLS-SEM from Voll, K. & Pfnür, A. published by Emerald Publishing in Journal of Corporate Real Estate, 2024, 26(2), 82–112, available online: <https://doi.org/10.1108/JCRE-03-2023-0010>

---

States. The positive effect of isolation on burnout is significantly stronger in the United States than in Germany, whereas the positive effect of family–work inference on burnout is stronger in Germany than in the United States. The negative effects visible for the relations between burnout and satisfaction, and satisfaction and turnover intention are stronger in Germany than in the United States. The positive effect of burnout on turnover intention is stronger in the United States compared to Germany.

### *Originality*

The study adds empirical evidence to the JD-R theory by analysing the influence of the home workplace characteristics on employee outcomes in different countries for the first time using a multi-group analysis. In addition, the study reveals new insights into the differences between the knowledge workforces in Germany and the United States by uncovering how key factors influence employee outcomes such as productivity and turnover intention, partially carried by varying length of experience in work from home between both of these countries. Insights from this study can support corporate real estate managers to make better decisions on the design of employees' home workplaces and the integration of work from home into the company's workspace concept.

## **3.1 Introduction**

In globalized economies, multi-national companies are often required to employ people across multiple markets and countries and manage corporate real estate worldwide. Real estate managers are tasked with making decisions about the design and management of the globalized workplace (Plijter et al., 2014). In doing so, different national cultures have to be aligned with the corporate culture (Dewulf et al., 2000). It is, however, not yet comprehensively understood how cultural differences influence workplace characteristics. This short come imposes a challenge in making optimal decisions in this domain. Workplace characteristics in the work from home context are defined as the factors and features of the work environment (perceptions about the space, job, task and outside surroundings) that are associated with human well-being because they influence the way of working and the resulting work success (Bakker/Demerouti, 2007; McKnight et al., 2009; Roskams et al. 2021).

During the COVID-19 pandemic, millions of knowledge workers worldwide suddenly started working from home on a regular basis (Nijp et al., 2016). This first-time simultaneous high frequency of work from home provides an unprecedented opportunity for research on the resulting impact of this novel workplace on organisations (Contreras et al., 2020).



---

To achieve business success and survive in the increasing war for talent, companies must provide suitable workplaces for their workforce regardless of where employees perform their work (Carnevale/Hatak, 2020; Gigauri, 2020; Donthu/Gustafsson, 2020). An environment that is optimally adapted to employees' work is beneficial to fulfilling tasks effectively (Armitage/Nassor Amar, 2021). Right now it is more important than ever for companies to understand the relevant factors that influence the productivity and turnover intention of their employees when working from home in order to position themselves for the future. Research findings of different disciplines show evidence of an increase in satisfaction and a decrease in turnover intention while working from home (Bloom et al., 2015; Kröll/Nüesch, 2019; Niebuhr et al., 2022; Voll et al., 2023b). Some studies have also analysed the influence of workplace characteristics on productivity (Pfnür et al., 2021a; Voll et al., 2022a) and burnout (Da Pereira/Ribeiro, 2022) for the workplace at home. However, the small number of robust pre-pandemic cross-sectoral research and evidence still suggests a need for research specifically on home-based work concepts. The application of more holistic models is necessary to fully understand the relationships between resources and demands on work success when working from home. Current literature on the topic has the critical limitation that most scholars purely focus on the work from home situation of an individual country. Research on the differences in workplace needs between nation groups is insufficient (Voll et al., 2022a). In the past, work from home has been established to varying degrees in different countries. However, due to the high intensity of work from home during COVID-19 simultaneously across countries, a direct comparison between countries is possible for the first time. The comparison is of high value because there is yet evidence to be uncovered on whether country-specific factors such as culture, work organisation or the length of experience in work from home influence the home workplace characteristics that affect employees' work outcomes.

To address this research gap, this study investigates two countries with different length of experience in work from home, the United States (U.S.) and Germany, in a first bilateral comparison. The impact of the home workplace characteristics on employee outcomes during COVID-19 is analysed by examining which factors influence productivity and turnover intention through satisfaction and burnout. The U.S. is Germany's most important trading partner after China (Destatis, 2023b) and German companies are the third largest foreign employer in the U.S. with approximately 885,000 jobs (Federal Foreign Office, 2023). This study examines whether differences emerge between two of the largest Western economies (Statista, 2023) despite many similarities grounded in the close civil society, scientific and cultural ties connecting the two countries (German Missions in the United States, 2023).

---

Despite these similarities, scientific literature also points to several differences between the two nations in terms of their culture and labour organisation (Hall/Hall, 1990; Hofstede, 2001; Gauger et al., 2022a).

The basis of the research model used in this study is a conceptualisation of the workplace at home as a set of perceived characteristics derived from the Job Demands–Resources (JD-R) model (Bakker/Demerouti, 2007). The JD-R model is one of the most popular and influential models of work stress in organizational literature (Bakker/Demerouti, 2017). Based on a quantitative survey conducted among knowledge workers in Germany and the U.S., partial least squares structural equation modelling (PLS-SEM) and a multi-group analysis (MGA) are used to analyse the relationships between the knowledge workforces' resources, demands and their outcomes while working from home in both countries. Assessment of the MGA enhances the ability to identify meaningful differences in multiple relationships in a research model across group-specific results (Schlängel/Sarstedt, 2016; Cheah et al., 2020).

Comparing possible differences between groups is beneficial from a theoretical and practical perspective in order to avoid erroneous conclusions. The results of this study allow researchers advancing a piece of JD-R theory applied on the workplace at home by adding empirical evidence through an MGA. For practitioners, the results identify determinants on employees' burnout, satisfaction, productivity and turnover intention that vary between nations. These findings help improve the workplace and work at home. Based on the knowledge of country-specific differences of individual influences, corporate strategies adapted to different company locations can be developed (Earley/Mosakowski, 2004). Ultimately, this study enhances inter-nation collaboration as a purpose of cross-cultural research (Hofstede et al., 2010). By comparing two national samples, both countries can learn from each other, and the dialogue and starting points for joint studies arise.

## **3.2 Literature Review**

### **3.2.1 The Home as a Workplace**

The world of work is constantly exposed to new challenges due to the social, economic and technological developments of the last 20 years (Cascio, 2010; Gauger/Pfnür, 2019). In the wake of globalization, companies can gain a competitive advantage by recruiting talent internationally, collaborating virtually and achieving success across locations. Croon et al. (2005) report in their literature review that companies try to promote performance and increase employee satisfaction to rise economic success. Scientific evidence confirms that the design of the workplace has an impact on worker satisfaction. Developments in society and technology have spurred the flexibilization of the work location, which offers a

---

complementary alternative to the office workplace. The origins of the concept of telework go back to the late 1970s and early 1980s (Kleemann, 2022). Prior to the pandemic, the establishment of flexible workplace models took place at different rates in different countries. During the COVID-19 pandemic in 2020, however, the concept of working from home expanded rapidly in several countries around the world in an effort to prevent the virus from spreading (Belzunegui-Eraso/Erro-Garcés, 2020) and the home received increasing attention as part of the working world (Mergener, 2020). In Germany, only approximately 13% of all employees worked from home in 2019 (Federal Statistical Office, 2021). Of these, only up to 6% used their home workplace every day or at least half of the working time. In comparison, in the U.S., 52% of employees claimed to work from home at least one day per week, with 17% working five days or more from home (Mlitz, 2021). In both Germany and the U.S., the proportion of work from home increased by around 20%. Furthermore, in the future, up to 80% of companies in Germany and the U.S. are planning to implement a flexible workplace policy (International Workplace Group, 2019). These figures should be viewed with caution due to the different understandings of the terms and diverse designs of telework and work from home across different studies. However, in 2023, referring to data from the commercial real estate firm JLL, the Wall Street Journal reports lower return-to-office rates in the U.S. compared to Europe. (Putzier, 2023).

This study defines work from home as knowledge workers performing a work activity from home. A variety of research disciplines have examined environmental conditions, interactions and success factors of office real estate on the workplace as well as of the physical work location on employee performance (e.g., Appel-Meulenbroek et al., 2013; Clippard, 2020; Roskams et al. 2021). However, research on working from home and on the characteristics that influence work success in the home workplace has only increasingly gained in importance over the past few years. Individual studies, mostly on a specific occupational group or knowledge workers in a specific country, have assessed the effects of work-from-home on the well-being and success of employees or show the disadvantages of working at home and the suffering of employees (e.g., Sutarto et al., 2021; Schade et al., 2021; Kossen et al., 2022).

### **3.2.2 Differences in Germany and the U.S. (Work Culture)**

Although there are many similarities and substantial cooperation between the countries from an economic point of view, the society and employees in Germany and the U.S. differ in their cultural characteristics (Hofstede Insights, 2023). This observation gives reason to assess further why employee outcomes at the home workplace vary between both countries. It is

---

already well established that national culture plays an essential role in managing global workspaces. However, scientific knowledge and transnational studies on the differences of influences on employees' outcomes working at home are sparse. While scholars have looked at the impact of national culture on the performance of international companies (DasGupta/Roy, 2023), this study takes a step back and first examines whether national differences occur for working from home in the first place. The findings provide a starting point for future research.

Established theories about national culture propose different cross-cultural comparison dimensions (e.g., Trompenaars/Hampden-Turner, 1997; House et al., 2002; Hofstede et al., 2010, 2005; Schwartz, 2006). Because this study aims to find out whether differences in work from home occur between Germany and the U.S., and not which exact cultural dimensions are the triggers, only a few meaningful differences are exemplified below, following Hofstede (1980) and Hofstede Insights (2023). The framework presented by Hofstede is influential in work-related culture value comparisons and has been a frequently used basis of cross-national research in the workplace (Spector et al., 2001). These examples illustrate how (work) culture can influence the work from home characteristics included in the model of this study and underline the need for the MGA.

While individualism, i.e. individuals being more self-reliant, is very strongly valued in the U.S., the German culture is somewhat more orientated towards collectivism (Hofstede Insights, 2023). In Germany, strong workplace representation established through a works council exists often, which can be seen as embedded collectivism (Gumbrell-McCormick/Hyman, 2006). Additionally, higher levels of collectivism are generally associated with greater job satisfaction (Hui, 1996) and organisational commitment (Palich et al., 1995). Because individualism values personal freedom, people in the U.S. were less convinced to support the collective action of staying at home during COVID-19 (Jiang et al., 2022). Araghinavaz (2003) states that depending on the degree of individualism, the preference for office types varies. The results show that individualistic cultures tend to prefer cellular offices. Long-term orientation is another characteristic that stands out in Germany in contrast to the U.S. Long-term orientation in the business world is correlated with work values like adaptiveness, accountability and self-discipline (Hofstede/Minkov, 2010). While being investigated in life-long networks is typical for employees in long-term-oriented cultures, knowledge workers in short-term-oriented cultures value personal loyalties that vary with business needs and the main work value is freedom (ibid.). Therefore, in the U.S., individuals tend to strive for quick results within the workplace. In Germany, it is more common to try to avoid uncertainty. However, especially during the pandemic, the level of uncertainty is very high, which can create a sense of unease in German society and might

---

lead to stress of employees (Ryan, 2022). Also, a connection is found between uncertainty avoidance of a society and the openness to workplace innovation and Steelcase (2009). Hence, in the U.S., this results in more flexible workplaces, e.g., work from home. German society is also known for its tendency towards restraint, characterised by the fact that satisfaction of needs is more strongly suppressed and regulated by strict social norms. German employees are assumed to have a tendency towards pessimism. In contrast, according to Hofstede's cultural dimension model, the U.S. scores as an indulgent society (Hofstede, 1980). There are further significant differences in the work culture of the two nations; for example, the different ways in which work contacts are perceived outside the office (Körber, 2018). In the U.S., an increase in the number of people working 50 hours or more per week has been reported for several years (Cohen, 1992). This continuing trend goes so far that overwork is even valued by American culture (Arabandi, 2011). In Germany, the Working Hours Act limits the working hours of employees on weekdays to a maximum of eight hours (BMJ, 2020). With regard to informal learning at the workplace, studies show that employees in cultures with a large power distance engage in less self-management (Kirkman/Shapiro, 2001; Ralston et al., 2008; Kim/Mc Lean, 2014). Power distance is defined as "the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally" (Hofstede Insights, 2023). Because the power distance for German workers is lower compared to the U.S., they are expected to manage themselves easier. Communication is also more direct and in cultures with lower power distance, like Germany, employees participate more actively in meetings. Based on this style of action, Germans articulate their interests well to managers and teammates. Despite these findings, a direct link between power distance and workplace characteristics has not yet been confirmed (Plijter et al., 2014). Nevertheless, lower levels of power distance are associated with higher levels of organisational commitment (e.g., Clugston et al., 2000).

### **3.3 Research Model Development**

The JD-R model (Bakker/Demerouti, 2007) and its application to the workplace environment, the environmental demands–resources (ED-R) model (Roskams et al., 2021), are used as the theoretical underpinning of this study. Workplace characteristics are classified as demands or resources (Bakker/Demerouti, 2007). JD-R theory is one of the most influential theories in workplace research and often serves as a conceptual model to describe complex relationships between workplaces and work outcomes (e.g., Chu et al., 2022). The model describes the interaction of characteristics that influence employees' outcomes through parallel health impairment and motivational processes. Overall, employee outcomes

---

are distinguished into three categories: attitudes, e.g., satisfaction and turnover intention; health, like burnout; and performance, such as productivity (Edwards/Shipp, 2007; Appel-Meulenbroek et al., 2021). Bakker/Demerouti (2017) show that burnout has a negative and satisfaction a positive impact on outcomes such as productivity and turnover intention.

The research model presented in *Figure 7* includes two demands (isolation and family–work interference) two resources (equipment/facilities and skill variety), two attitudes (satisfaction; turnover intention), health (burnout) and performance (productivity). All have aspects of particular relevance for work from home as they all undergo a strength of relevance due to the pandemic condition. Two challenges of working from home are particularly evident in the context of the COVID-19 pandemic. Knowledge workers feel isolation due to the distance from colleagues and the company, and they experience tension due to living and working with their family, which also cannot leave the house due to the exceptional situation of the pandemic. Thus, isolation and family–work interference are classified as job demands because both represent aspects that require mental effort and carry psychological costs (Demerouti et al., 2001). The resources are equipment/facilities as well as skill variety. Both are included because they are either an aspect of the workplace environment whose presence is associated with an enhanced ability to reach higher levels of work engagement (Roskams et al., 2021) or an aspect of the job that is functional in achieving work goals or stimulating personal growth and development (Demerouti et al., 2001). Previous research demonstrates for two similar models, based on JD-R model, with individual outcome variables that the included workplace characteristics represent the specifics of work from home during COVID-19 well (Bakker/Demerouti, 2017, Voll et al., 2022a; Voll et al., 2023a). For this reason, these models are combined in this study to base the country comparison on a more holistic model.

In this study, **Isolation** symbolises the subjective feeling of loneliness as an adaptive response to isolation, which is found as an effect of the pandemic (Hwang et al., 2020; Lengen et al., 2021). In the U.S., an increase in social isolation during the COVID-19 pandemic is reported (Peng/Roth, 2022). Earlier studies have identified social isolation as a hazard of telework (Baruch, 2000; Klopotek, 2017). One reason for this is that the physical isolation experienced while working from home can cause loneliness and feelings of isolation (Wang et al., 2021). As a result of isolation, employees react in two different ways. One group no longer wants to work at home but wants to return to the office if possible. Bloom et al. (2015) find loneliness and a lack of social interaction while working from home as the most common reasons why employees wish to return to the office. The other group of employees experiencing isolation, or those who cannot go to an office to work, as during the COVID-19

---

pandemic, experience emotional stress and react with reduced performance. Bauer/Silver (2018) document a direct relationship between isolation and burnout. During remote work, social isolation leads to decreased satisfaction (Toscano/Zappalà, 2020).

*H1: Isolation has a positive impact on burnout at the home workplace.*

Work and family issues are associated with cultural values (Yang et al., 2000). **Family-work interference** is a form of inter-role conflict based on role stress theory (Grzywacz/Demerouti, 2013). Knowledge workers who work from home spend their working hours in addition to their personal lives—i.e. most of their time—at home. Working from home increases the risk of blurring the boundary between work location and private life (Wang et al., 2021) when the private premises are no longer left for work. Researchers identify time-based, strain-based and behaviour-based family-work conflicts that can be experienced while working from home (Greenhaus/Beutell, 1985). Sharing private space with family members can make working at home even more difficult. As a consequence of cross-domain roles with frequent distractions and interruptions, greater experiences of exhaustion occur (Kreiner et al., 2009). Working from home during COVID-19, children being at home and distractions while working are all associated with decreased overall physical and mental well-being (Xiao et al., 2021). Furthermore, Hakanen/Bakker (2017) find empirical evidence for the relationship between stressful events in an employee's personal life and job burnout. According to a meta-analysis by Alarcon (2011), role conflict has been confirmed as a predictor for burnout. A cross-country comparison by Galovan et al. (2010) reports a varying relation between family-work conflict and job satisfaction in individualistic cultures compared to more collectivist nations.

*H2: Family-work interference has a positive impact on burnout at the home workplace.*

In this study, **equipment and facilities** refers to technological work equipment and to an employee's available private space and workstation used for work purposes at home, including required storage space (Schreyer et al., 2023). Messenger/Gschwind (2016) find that functioning technology is among the most important prerequisites for working from home. In addition, access to required technology is correlated positively with satisfaction (Van der Voordt, 2004). Instead, problems with equipment are found to be a job demand (Bakker et al., 2003) and inadequate tools are seen as a disadvantage for the home office (Ipsen et al., 2021). In the context of this study, it is worth noting that Germany had a comparatively low work from home rate before the COVID-19 pandemic began in contrast to the U.S. However, as a result of the sudden switch from office to home, many employees

---

in Germany did not have access to adequate work equipment, especially at the beginning of the pandemic (Schreyer et al., 2023).

*H3: Equipment and facilities have a positive impact on satisfaction at the home workplace.*

**Skill variety** describes the amount of skill a person needs to be able to do a job (Hackman/Oldham, 1980). Working from home in a private space can make it more difficult to complete monotonous tasks to satisfaction because there are usually more distractions in a private living space than in an office. There are also fewer opportunities for spontaneous help from colleagues (Kellner et al., 2020). Both aspects, distraction from work and distance from colleagues make working from home difficult during the COVID-19 pandemic. One ability that helps deal with these challenges and makes knowledge workers resilient is a distinctive skill variety. Meta-analytic results show that skill variety is positively related to involvement and satisfaction (Humphrey et al., 2007). Involvement, like active participation in meetings, is associated with cultures with low power distance (Hofstede Insights, 2023).

*H4: Skill variety has a positive impact on satisfaction at the home workplace.*

**Burnout** can be understood as a long-term consequence of stress and is triggered by situational and individual factors (Bakker et al., 2014). **Satisfaction** is a multi-faceted construct in this study as it expands the concepts of job and work satisfaction to include additional dimensions like satisfaction with life overall or an employee's financial situation (Siddiqui, 2015). **Turnover intention** is understood as the conscious and deliberate self-motivation to leave the organisation and **productivity** reflects the self-estimated productivity in the home office of the employee.

According to the third proposition of the JD-R theory (Bakker/Demerouti, 2017), resources (instigate a motivational process) buffer demands (instigate a health-impairment process). Burnout is considered to be one of the most important predictors of job satisfaction and turnover intention (Lu/Gursoy, 2016). Schaufeli/Bakker (2004) also confirm that burnout is related to turnover intention. High rates of turnover are associated with high costs to the organisation in part due to associated reduced productivity (Jackson/Maslach, 1982; Leiter, 1988). Furthermore, an indirect relationship between isolation and turnover intention via burnout is documented (Bauer/Silver, 2018). Empirical studies show that there is a negative causal relationship between burnout and job satisfaction (Wolpin et al., 1991; Baruch-Feldman et al., 2002; Ybema et al., 2010). Employees who are dissatisfied with their work situation develop the intention to quit. Dissatisfaction triggers a series of steps that lead employees to develop turnover intention (Porter/Steers, 1973). Studies already confirm this observation and report a negative correlation between job satisfaction and employee



turnover (e.g. Mobley, 1977). In contrast, in a study of teleworkers, Dubrin (1991) shows that higher satisfaction increases productivity. A positive relationship between job satisfaction and productivity is also described in the ‘Happy-Productive Worker Thesis’ by Landy (1985), revisited by Zelenski et al., 2008). During remote work, Toscano/Zappalà (2020) detect a decrease in productivity caused by social isolation. Expanding the view to include results from a meta-study on physician productivity, a negative relationship between burnout and productivity and higher intention to leave are reported (Dewa et al., 2014).

**H5:** Burnout has a negative impact on satisfaction at the home workplace.

**H6:** Burnout has a positive impact on turnover intention at the home workplace.

**H7:** Burnout has a negative impact on productivity at the home workplace.

**H8:** Satisfaction has a negative impact on turnover intention at the home workplace.

**H9:** Satisfaction has a positive impact on productivity at the home workplace.

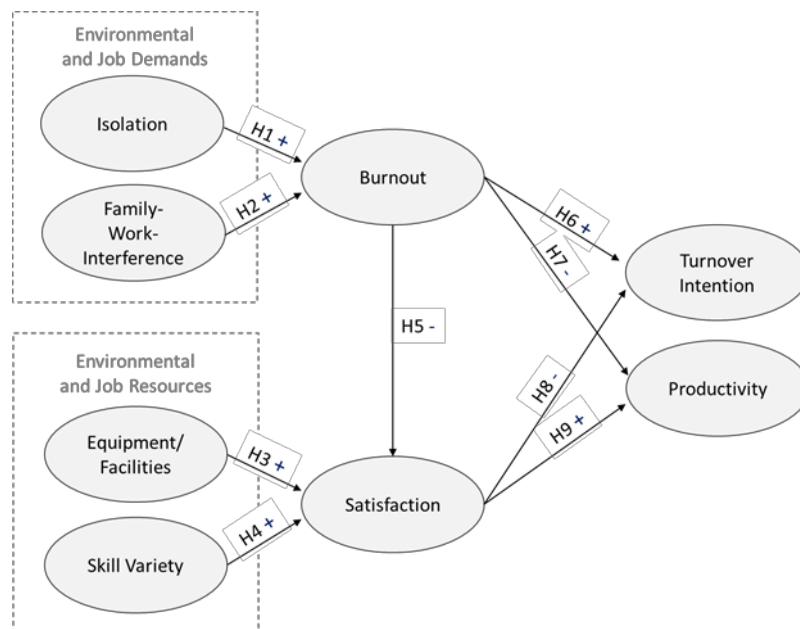


Figure 7: Research Model (authors’ own illustration, 2023, following Bakker/Demerouti, 2017; Voll et al., 2022a; Voll et al., 2023a)

### 3.4 Methodology

#### 3.4.1 Data Collection

The dataset in this study was generated within the Work-from-Home programme (author information not yet mentioned during the review due to desired anonymity, 2021). It is based on an online survey conducted from 10–14 August 2020. For data collection, an electronic questionnaire was distributed with the software LamaPoll via the platform Clickworker in Germany and Mechanical Turk (MTurk) in the U.S. The choice of distributing the survey via these sampling platforms was informed by the increasing popularity of both

platforms in research. Several authors argue this method, compared to more traditional sampling strategies, generates responses quickly and reliably with comparable quality (e.g. Brawley/Pury, 2016; Follmer et al., 2017). The surveys addressed 2,000 office and knowledge workers in Germany, Switzerland, Austria and the U.S. Data cleaning and pre-processing was conducted in IBM SPSS Statistics, resulting in the final dataset comprising a cohort of respondents from Germany ( $N = 429$ ) and a cohort from the U.S. ( $N = 507$ ). All surveys with a response time of less than seven minutes and missing values as well as single outliers were excluded. PLS-SEM was chosen for the statistical analysis as this research compares two countries to explore theoretical extensions of the JD-R theory as opposed to the more traditional CB-SEM (Hair et al., 2019). PLS-SEM is suitable for conducting an MGA to analyse group differences after estimating the measurement model.

This research is based on the analysis of knowledge workers who performed at least part of their activities during the COVID-19 pandemic from home. More specifically, more than four days per week on average were spent working from home over the entire dataset. Thus, the amount of work from home is substantial and therefore causes genuine effects. *Figure 8* shows the proportion of work from home in the sample for the period before and during the COVID-19 pandemic.

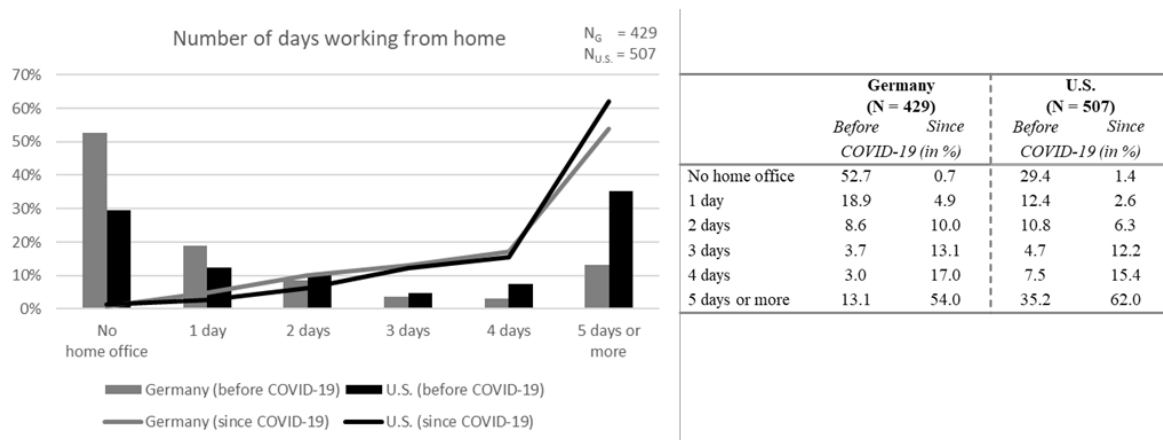


Figure 8: Work from Home Proportion over Time (authors' own illustration, 2023)

### 3.4.2 Data Sample

Items are combined from existing survey instruments wherever possible. The Appendix A provides a detailed list of items with associated sources. A five- or seven-point Likert scale is used for all items to measure perceived fit. The employees' characteristics are reported in *Table 5*.

Table 5: Sample Descriptive Statistics (authors' own illustration, 2023)

	Germany	U.S.

<i>Demographic Characteristic</i>	<i>Frequency (N = 429)</i>	<i>Percentage (%)</i>	<i>Frequency (N = 507)</i>	<i>Percentage (%)</i>
<b>Gender</b>				
Male	<b>262</b>	<b>61.1</b>	<b>327</b>	<b>64.5</b>
Female	166	38.7	179	35.3
Diverse Gender	1	0.2	1	0.2
<b>Age</b>				
18-20	13	3.0	1	0.2
21-39	<b>257</b>	<b>60.0</b>	<b>350</b>	<b>69.0</b>
40-55	131	30.5	126	24.9
56-68	28	6.5	30	5.9
<b>Relationship Status</b>				
Divorced	12	2.8	14	2.8
Married	142	33.1	<b>331</b>	<b>65.3</b>
Relationship	<b>163</b>	<b>38.0</b>	57	11.2
Single	102	23.8	102	20.1
Widowed	1	0.2	3	0.6
N/A	9	2.1	14	2.8
<b>Level of Education</b>				
Main School (Hauptschule)	7	1.6	27	5.3
Secondary School (Realschule)	85	19.8	47	9.3
Higher School Certificate (Abitur)	<b>121</b>	<b>28.2</b>	7	1.4
Bachelor's	82	19.1	<b>259</b>	<b>51.1</b>
Master craftsman	6	1.4	28	5.5
Master's	113	26.3	129	25.4
PhD	15	3.5	-	-
<b>Professional Status</b>				
Employee	<b>353</b>	<b>82.3</b>	<b>479</b>	<b>94.5</b>
Self-employed	47	11.0	15	3.0
Civil servant	15	3.4	4	0.8
Freelancer	14	3.3	9	1.8
<b>Position</b>				
Entrepreneur/Freelancer	46	10.7	12	2.4
Managing director	5	1.2	11	2.2
Management	65	15.2	<b>333</b>	<b>65.7</b>
Project manager	45	10.5	62	13.0

Employee	<b>244</b>	<b>56.9</b>	77	15.2
Temporary staff	4	0.9	4	0.8
Apprentice	10	2.3	-	-
Intern	2	0.5	1	0.2
Other	-	-	7	1.4
<b>Managerial Responsibility</b>				
Yes	92	21.4	<b>374</b>	<b>73.8</b>
No	<b>337</b>	<b>78.6</b>	133	26.2
<b>Number of People in the Household</b>				
1 Person	98	22.8	58	11.4
2 People	<b>168</b>	<b>39.2</b>	88	17.4
3 People	86	20.0	137	27.0
4 People	58	13.5	<b>150</b>	<b>29.6</b>
5 People or more	19	4.5	74	14.6
<b>Number of Children in the Household</b>				
No Children	<b>304</b>	<b>70.9</b>	<b>175</b>	<b>35.9</b>
1 Child	72	16.7	167	34.3
2 Children	44	10.3	123	25.3
3 Children or more	9	2.1	22	4.5
<b>Number of Adults in Need of Care in the Household</b>				
No Person	<b>415</b>	<b>96.8</b>	<b>213</b>	<b>44.2</b>
1 Person	10	2.3	61	12.7
2 People or more	4	0.9	208	43.1
<b>Note:</b> Maximum values per demographic are printed in <b>bold</b>				

Similarity between the sample and society is a prerequisite for representativeness and the results' transferability. Therefore, a nonresponse bias analysis is performed, consisting of a comparison of estimates from respondents to population values (Bose, 2001). The results show a good match in distribution across known demographic variables between the samples and the target population of office and knowledge workers in the U.S. and Germany.

### 3.5 Results

The research in this study analyses country group effects related to the structural model relations. More precisely, the effects are hypothesised as different across two subpopulations, Germans and Americans. PLS-SEM has the advantage of estimating the measurement model

and examining the structural model, and is suitable for conducting an MGA to analyse group differences. The analysis follows the guidelines of Hair et al. (2017), Hair et al. (2019) and Cheah et al. (2020).

### 3.5.1 Measurement Models

First, the quality of the measurement models is analysed before the structural model is presented (Hair et al., 2013). The results (see *Table 6*) show loadings above 0.708 for all indicators, which demonstrates a satisfactory degree of reliability (Chin, 2010).

Table 6: Indicator Loadings, Mean Values and Standard Deviations (authors' own illustration, 2023)

	<i>Outer Loading</i>	<i>Mean Value</i>	<i>Standard Deviation</i>
<b>Isolation</b>			
Iso_1	0.913	2.494	1.215
Iso_2	0.909	2.547	1.206
Iso_3	0.851	2.846	1.196
<b>Family–Work Interference</b>			
FWI_1	0.949	3.130	1.438
FWI_2	0.938	5.042	1.431
<b>Equipment/Facilities</b>			
EF_1	0.748	4.884	1.664
EF_2	0.764	5.365	1.480
EF_3	0.817	5.472	1.327
<b>Skill Variety</b>			
SV_1	0.873	5.350	1.215
SV_2	0.871	5.368	1.250
SV_3	0.839	5.228	1.330
SV_4	0.838	5.236	1.339
<b>Burnout</b>			
Burn_1	0.906	2.669	1.070
Burn_2	0.893	2.870	1.056
Burn_3	0.898	2.786	1.030
<b>Satisfaction</b>			
Satis_1	0.723	5.302	1.376
Satis_2	0.754	5.219	1.375
Satis_3	0.754	5.268	1.212
Satis_4	0.710	4.672	1.374
<b>Turnover Intention</b>			
TI_1	0.917	2.841	1.947
TI_2	0.932	3.093	2.031
TI_3	0.897	3.137	2.078
<b>Productivity</b>			
Prod_1	0.871	4.848	1.528
Prod_2	0.896	5.042	1.431
Prod_3	0.903	5.005	1.471
Prod_4	0.769	5.025	1.459

Similarly, the internal consistency reliability of the data is tested. The results of Cronbach's  $\alpha$ , composite reliability and  $\rho_A$  analysis are found to be within the recommended value range for satisfactory to good results, between 0.70 and 0.95. The

average variance extracted (AVE) measuring convergent validity of each construct shows values above 0.50 for all items associated with their construct (see *Table 7*). This result indicates that the construct explains at least 50% of the variance of its items (Chin, 1998; Hair et al., 2019).

Table 7: Internal Consistency, Reliability and Convergent Validity (authors' own illustration, 2023)

	Internal Consistency			Convergent Validity
	Cronbach's $\alpha$	$\rho_A$	Composite Reliability	AVE
Isolation	0.870	0.870	0.921	0.794
Family–Work Interference	0.877	0.884	0.942	0.890
Equipment/Facilities	0.677	0.695	0.820	0.604
Skill Variety	0.878	0.884	0.916	0.731
Burnout	0.881	0.882	0.927	0.808
Satisfaction	0.724	0.734	0.825	0.541
Turnover Intention	0.904	0.909	0.940	0.839
Productivity	0.883	0.885	0.920	0.742

The fourth and final step of the reflective measured constructs analysis assesses discriminant validity to analyse how strongly constructs differ empirically from one another. *Table 8* shows the results of the discriminant validity assessment. Following Henseler et al. (2015), the heterotrait–monotrait (HTMT) ratio of the correlations is applied. All ratios are below 0.9 and can therefore be considered as unproblematic. With the highest value of 0.815 between satisfaction and equipment/facilities, all values for the upper bound of the 95% bias-corrected and accelerated confidence interval are always lower than 0.850. Thus, significant results are indicated by even lower values than the more conservative threshold value.

Table 8: Heterotrait–Monotrait Ratio of Correlations (authors' own illustration, 2023)

	Burnout	Equip-ment/ Facilities	Family– Work Interference	Isolation	Productivity	Satis- faction	Skill Variety	Turnover Intention
Burnout								
Equipment /Facilities	0.165 CI <sup>95</sup> =0.24 7							
Family– Work Interfer- ence	0.271 CI <sup>95</sup> =0.34 5	0.524 CI <sup>95</sup> =0.59 9						
Isolation	0.577 CI <sup>95</sup> =0.63 6	0.320 CI <sup>95</sup> =0.28 7	0.060 CI <sup>95</sup> =0.085					
Produc- tivity	0.052 CI <sup>95</sup> =0.08 0	0.564 CI <sup>95</sup> =0.64 6	0.396 CI <sup>95</sup> =0.470	0.139 CI <sup>95</sup> =0.25 5				
Satisfaction	0.385 CI <sup>95</sup> =0.45 8	0.815 CI <sup>95</sup> =0.87 5	0.715 CI <sup>95</sup> =0.767	0.257 CI <sup>95</sup> =0.33 3	0.561 CI <sup>95</sup> =0.631			

Skill Variety	0.054 CI <sup>95</sup> =0.09 2	0.468 CI <sup>95</sup> =0.55 6	0.322 CI <sup>95</sup> =0.399	0.047 CI <sup>95</sup> =0.06 3	0.264 CI <sup>95</sup> =0.348	0.536 CI <sup>95</sup> =0.61 4	0.150 CI <sup>95</sup> =0.22 1
Turnover Intention	0.466 CI <sup>95</sup> =0.52 8	0.141 CI <sup>95</sup> =0.18 9	0.068 CI <sup>95</sup> =0.134	0.418 CI <sup>95</sup> =0.48 3	0.069 CI <sup>95</sup> =0.089	0.219 CI <sup>95</sup> =0.29 0	

**Note:** CI<sup>95</sup> presents the upper bound of the 95% bias-corrected and accelerated confidence interval

### 3.5.2 Structural Model and Hypothesis Testing

The quality of the measurement model evaluation results is satisfactory; therefore, the PLS-SEM evaluation process continues with the structural model (Hair et al., 2013). To avoid undetected collinearity, which could bias the regression results, a test of collinearity between the constructs has to show exclusively values smaller than two. The results presented in *Table 9* show no signs of multicollinearity for the structural model as no assumptions of variance inflation factors (VIF) are violated.

Table 9: Variance Inflation Factor Values (authors' own illustration, 2023)

	Burnout	Satisfaction	Productivity	Turnover Intention
<b>Burnout</b>		1.018	1.104	1.104
<b>Family-Work Interference</b>	1.002			
<b>Isolation</b>	1.002			
<b>Equipment/Facilities Building</b>		1.174		
<b>Satisfaction</b>		1.155	1.104	1.104

The variance explained in each of the constructs is reviewed by analysing R<sup>2</sup>, a coefficient of determination of the model's in-sample explanatory and predictive power. *Table 10* shows the results of satisfactory values (Shmueli/Koppius, 2011; Rigdon, 2012; Dolce et al., 2017).

Table 10: R<sup>2</sup> Values (authors' own illustration, 2023)

	R <sup>2</sup>
Burnout	0.302
Satisfaction	0.479
Productivity	0.248
Turnover intention	0.179

The research model has seven path coefficients where five have a positive value, suggesting a positive relationship (see *Table 11*). The path between satisfaction and productivity has the strongest relationship ( $\beta = 0.523$ ). Two path coefficients indicate a negative relationship between burnout and satisfaction ( $\beta = -0.233$ ) and between satisfaction and turnover intention ( $\beta = -0.068$ ). The results show for all path coefficients significant coefficients on a 1% level. According to the path coefficients and their significance, H1–H6 can be confirmed

(see *Figure 9*). Only H7, the anticipated negative relationship between burnout and productivity, cannot be confirmed as the path relationship is significantly positive. According to the results, higher burnout leads to an increase in productivity. The values presented show that the model setup meets the quality criteria of the structural model and that the results can, therefore, be evaluated with valid content.

Table 11: Path Coefficients and Results for the Hypothesis Model (authors' own illustration, 2023)

<i>Hypothesis</i>	<i>Hypothesised Path</i>	<i>Path Coefficient</i>	<i>Confidence Intervals [2.5%, 97.5%]</i>
<b>Burnout</b>			
H1	Isolation to Burnout	0.495***	[0.436; 0.547]
H2	Family-Work Interference to Burnout	0.216***	[0.153; 0.277]
<b>Satisfaction</b>			
H3	Equipment/Facilities to Satisfaction	0.489***	[0.437; 0.536]
H4	Skill Variety to Satisfaction	0.250***	[0.186; 0.311]
H5	Burnout to Satisfaction	-0.233***	[-0.278; -0.186]
<b>Turnover Intention</b>			
H6	Burnout to Turnover Intention	0.397***	[0.333; 0.459]
H8	Satisfaction to Turnover Intention	-0.068***	[-0.133; -0.001]
<b>Productivity</b>			
H7	Burnout to Productivity	0.150***	[0.089; 0.207]
H9	Satisfaction to Productivity	0.523***	[0.467; 0.578]
<b>Note:</b> ***Significant at 0.01 level (2-sided), ** significant at 0.05 level (2-sided), * significant at 0.1 level (2-sided)			



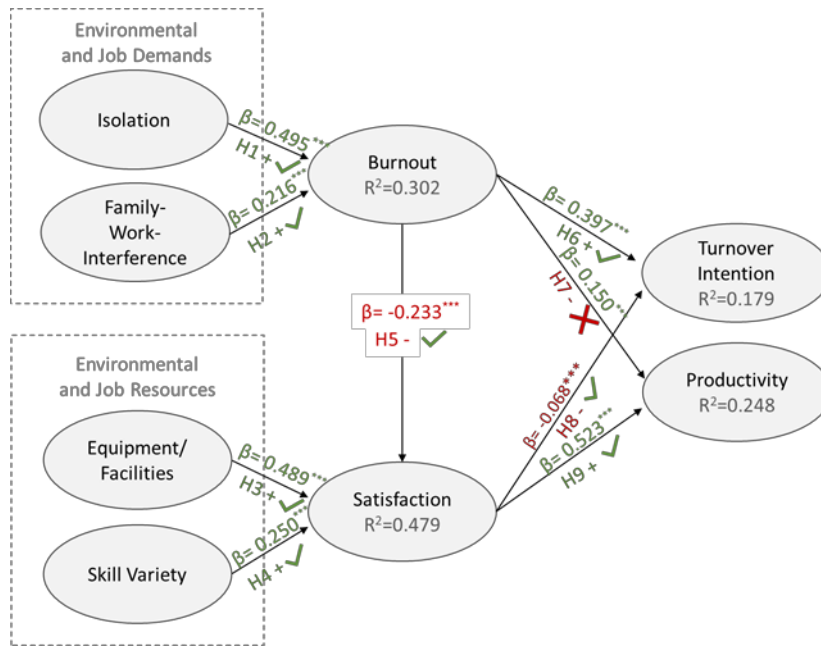


Figure 9: Research model including hypothesis and structural model results (authors' own illustration, 2023)

### 3.5.3 Multi-group Analysis

After analysing the full sample and data preparation, separate data groups are generated for each nation (Germany and the U.S.) based on the categorical variable of interest. The PLS-MGA is applied to uncover potential differences between the two groups with regard to work from home, which have been assumed on the basis of differences in historical, cultural and work organisation aspects. The measurement invariance of composite models (MICOM) procedure includes three performed steps. Thereby, the assessment of the configural invariance (Step I) and the compositional invariance (Step II) are established successfully (see Table 12). Partial measurement invariance is confirmed according to the test for composite equality (Step III).

Table 12: MICOM Step II Results (authors' own illustration, 2023)

	Original Correlation	5.0%	Permutation p-values	Compositional Invariance Established?
Isolation	0.999	0.999	0.090	Yes
Family-Work Interference	1.000	0.998	0.942	Yes
Equipment/Facilities	0.999	0.996	0.581	Yes
Skill Variety	1.000	0.998	0.914	Yes
Burnout	1.000	1.000	0.208	Yes
Satisfaction	1.000	0.997	0.818	Yes
Turnover Intention	1.000	0.999	0.545	Yes
Productivity	0.999	0.999	0.185	Yes

The test for multi-group comparisons follows to compare standardised path coefficients across groups. Because the results of different assessment approaches are quite similar, the

results of the parametric test (Keil et al., 2000) are taken into account (see *Table 13*). PLS-MGA uses a one-tailed test whereby the *p*-values show whether the path coefficient is significantly larger in the first group (Germany) than in the second group (U.S.). The results show that the path coefficient difference (marked as  $H_{diff}$ ) is significant for  $H1_{diff}$ ,  $H2_{diff}$ ,  $H5_{diff}$ ,  $H6_{diff}$  and  $H7_{diff}$  (see *Figure 10*), confirming that there are group-specific differences in these hypotheses. The positive effect of isolation on burnout is significantly stronger in the U.S. than in Germany ( $H1_{diff}$ ). Instead, the positive effect of family–work inference on burnout is stronger in Germany than in the U.S. ( $H2_{diff}$ ). The negative effects visible for the relations between burnout and satisfaction ( $H5_{diff}$ ), and satisfaction and turnover intention ( $H8_{diff}$ ), are stronger in Germany than in the U.S. The positive effect of burnout on turnover intention is stronger in the U.S. compared to Germany ( $H6_{diff}$ ).

Table 13: Multi-group Comparison – Parametric Test and Bootstrapping Results (authors’ own illustration, 2023)

<i>Hypothesis</i>	<i>Hypothesised Path</i>	<i>Bootstrapping Path Coefficients</i>		<i>Path Coefficient Difference (Germany-U.S.)</i>	<i>p-value</i>
		<i>Original Germany</i>	<i>U.S.</i>		
<b>Burnout</b>					
$H1_{diff}$	Isolation to Burnout	<b>0.288</b>	<b>0.599</b>	<b>-0.311</b>	<b>0.000</b>
$H2_{diff}$	Family–Work Interference to Burnout	<b>0.387</b>	<b>0.129</b>	<b>0.258</b>	<b>0.000</b>
<b>Satisfaction</b>					
$H3_{diff}$	Equipment/Facilities to Satisfaction	0.428	0.526	-0.098	0.055
$H4_{diff}$	Skill Variety to Satisfaction	0.255	0.216	0.039	0.550
$H5_{diff}$	Burnout to Satisfaction	<b>-0.335</b>	<b>-0.168</b>	<b>-0.167</b>	<b>0.001</b>
<b>Turnover Intention</b>					
$H6_{diff}$	Burnout to Turnover Intention	<b>0.151</b>	<b>0.490</b>	<b>-0.340</b>	<b>0.000</b>
$H8_{diff}$	Satisfaction to Turnover Intention	<b>-0.263</b>	<b>-0.043</b>	<b>-0.220</b>	<b>0.002</b>
<b>Productivity</b>					
$H7_{diff}$	Burnout to Productivity	0.130	0.165	-0.036	0.572
$H9_{diff}$	Satisfaction to Productivity	0.529	0.497	0.032	0.593

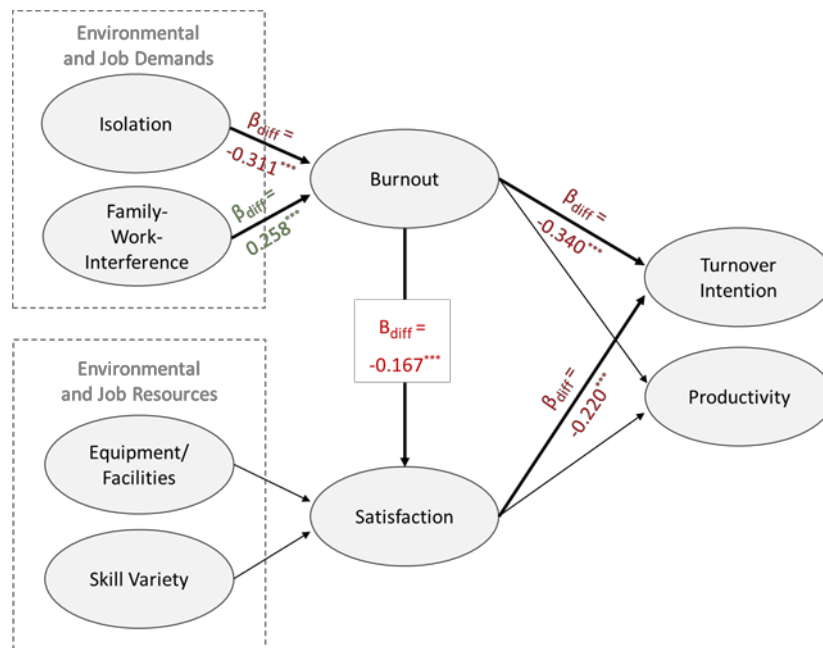


Figure 10: Multi-group comparison including significant path coefficient differences (Germany–U.S.)  
(authors' own illustration, 2023)

### 3.6 Discussion and Contribution

This study aims to discover heterogeneity in work from home characteristics between Germany and the U.S., influencing employees' outcomes during the COVID-19 pandemic.

#### 3.6.1 Implications on the Overall Sample

This paper applies the JD-R model and provides a holistic theoretical model for employees' outcomes, including attitudes (satisfaction), organisational commitment (turnover intention), health (burnout) and performance (productivity) when working from home. The PLS-SEM calculation identifies isolation, family–work interference, equipment/facilities and skill variety as workplace characteristics influencing productivity and turnover intention through satisfaction and burnout, supporting H1–H6, H8 and H9. The lower the demands and the better the resources perceived by the employee, the higher their satisfaction and the lower their burnout. These results are in line with previous research (e.g. Humphrey et al., 2007; Alarcon, 2011; Bauer/Silver, 2018; Toscano/Zappalà, 2020). The analysis of path coefficients and the degree of influence reveal that isolation and equipment/facilities are the most important demands and resources influencing employees' outcomes. Therefore, to improve the results of employees working from home and to avoid their dismissal, companies should strive to introduce measures to counteract and remedy isolation. The results reveal that investing in high-quality equipment and facilities is also advisable as it often pays off in terms of higher productivity and loyalty to the company. This finding is in line with previous research (Messenger/Gschwind, 2016; Van der Voordt, 2004). Surprisingly, the presumed

---

negative influence of burnout on productivity turns out to have a significantly positive influence, not confirming H7. Therefore, the findings from Dewa et al. (2014) associating burnout with decreased productivity of physicians cannot be confirmed for knowledge workers. A possible rationale relates to the timing of data collection at an early stage of the pandemic, in August 2020. Working from home is new for many knowledge workers and is initially overwhelming. Stress in certain proportions increases human performance for a short time; however, if exhaustion continues for a more extended period as during the pandemic, then such effects can reverse and result in a negative relationship between burnout and productivity as expected and known from the literature. The extended JD-R model explores factors that influence employees' attitudes, health and performance when working from home. By using the model, the included workplace characteristics are verified and further examined as contributing to knowledge workers' burnout, satisfaction, productivity and turnover intention.

### **3.6.2 Implications of the Multi-group Analysis**

Moreover, the MGA approach, applied in order to identify differences in the effects between Germany and the U.S., yields several significant findings with theoretical and practical relevance. The two demands, isolation and family–work interference, show the varying extent of effects on burnout in Germany and the U.S. While the path coefficient difference of isolation on burnout shows a negative value, indicating that the effect is significantly stronger in the U.S. than in Germany (with a positive path relation), family–work interference shows a significantly stronger positive effect on burnout in Germany than in the U.S. Similar effects are visible on the path between burnout and satisfaction (significantly stronger negative relation in Germany), burnout on turnover intention (significantly stronger positive effect in the U.S.) and satisfaction on turnover intention (significantly stronger negative effect in Germany).

The findings fit into a body of research for both countries. Taking a closer look at the differences for the two demands (H1diff and H2diff) is particularly insightful as the other path coefficient differences are downstream and, hence, influenced by these demands. Based on the findings, isolation increases burnout more strongly in the U.S. compared to Germany. Even before the pandemic, high levels of loneliness were found in the U.S. population (Weissbourd et al., 2021). Curfews imposed during the COVID-19 pandemic may have contributed to the increased isolation, particularly among individualistic U.S. citizens (Jiang et al., 2022). In the U.S., the lower frequency of integration of work colleagues into one's private life, i.e. beyond the daily work routine, could also contribute to the fact that burnout

---

was intensified during the pandemic. Without social contacts at work or any opportunities to meet friends privately, the exhaustion from the workday may have been perceived more acutely. For a post-pandemic time, one strategy for companies in the U.S. could be letting their employees choose between different workplaces in order to manage the feeling of loneliness (Smite et al., 2023). In this way, employees can choose flexibly the place of work according to their needs and reduce the feeling of isolation. Recent research from a long-term study in Germany beyond the height of the pandemic shows that it is not advisable for companies to force their employees back into the office (Pfnür et al., 2023). Barbour et al. (2021) report that workers in the U.S. have adopted the new work modalities beyond the COVID-19 pandemic and expect the freedom to choose their workplace. With a concept for multi-local workplaces, companies can increase the success of their employees and their attractiveness as an employer, and offer employees who suffer from isolation a place for communication and collaboration through their offices. In addition, Bentley et al. (2023) suggest introducing occupational health and safety management tools to help companies promote psychologically safe work from home. Increased use of digital workplaces within companies can also counteract isolation (González/Popescu, 2022). Joint virtual sessions that go beyond classic meetings, for example, informal coffee dates or open communication spaces on digital platforms, can stimulate personal exchange and a sense of belonging.

The lower influence of family–work-interference on burnout in the U.S. compared to Germany could be related to the fact that the U.S. is the country from where the term “work–life balance” originates. This topic has been discussed since the early 1990s (Hillmann, 2019). Hence, there could be greater awareness among U.S. knowledge workers. Furthermore, the home as a workplace has historically been more established in the U.S. Thus, knowledge workers have more experience in working from home in the U.S., which could be why conflicts between family and work are resolved more easily. During the COVID-19 pandemic, the more decisive influence of family–work interference on burnout has probably been exacerbated by closed day-care centres and schools among employees with children in Germany. This exceptional situation brought many parents in Germany into contact with homeschooling for the first time. In the U.S., on the other hand, this concept is more widespread. In the case of employees living in a partnership, on the other hand, one reason may be the mutual disturbance caused by the partner who is also working. While households in Germany have an average of 1.8 rooms per person, in the U.S., the average is 2.4 rooms per person. Home workers can avoid each other more easily in the U.S. and thus reduce family–work interferences. These insights help explain the weaker influence of this demand on burnout in the U.S. Offering a choice between different workplaces equally

---

applies for German companies. The possibility to choose the place of work that suits the respective private situation can be a solution for post-pandemic times.

The MGA analysis shows a higher negative effect of burnout on satisfaction in Germany. In connection with the knowledge that German society is classified as restrained, researchers also assume that German workers tend to be pessimistic (Hofstede Insights, 2023). Thus, satisfaction might be more challenging to achieve with an already low attitude without positive expectations and hope. If there is also a state of physical, emotional and mental exhaustion with reduced performance, then it seems to be even more challenging for employees in Germany to be satisfied while working from home.

The higher negative effect of satisfaction on turnover intention in Germany could result from the lower power distance among German knowledge workers (Clugston et al., 2000). This cultural characteristic is usually accompanied by a higher level of organisational commitment and, hence, is reflected in lower turnover intentions. In the U.S., on the other hand, there is an opposite effect, i.e. a high level of burnout increases the turnover intention significantly more than in Germany. Examining the demographics of the two samples reveals a difference in position and managerial responsibility. While only about 15% of German survey participants are positioned in management, about 65% of U.S. employees report having a role in management. The indication of management responsibility shows a similar trend. Only 21% of the German survey participants have management responsibility while in the U.S., almost 74% of respondents state that they do. This distribution is consistent with other research showing that a central feature of the new workplace culture in the U.S. is that workers are no longer controlled by hierarchical management systems but are encouraged to manage themselves (Arabandi, 2011). Dissatisfaction with the practices of the organisation where someone works or colleagues' political behaviour can lead to an employee feeling emotionally exhausted. Huang et al. (2003) reveal burnout to mediate the effects of perceptions of organisational politics on turnover intentions. The higher position may make it easier to change companies because higher-level employees have less dependence on employment, salary, etc. In the case of emotional exhaustion, workers react more quickly with resignation. In the U.S., this effect may be intensified by the individualistic culture, according to which everyone is closest to themselves (Jiang et al., 2022). Employees experiencing burnout might look out for themselves first instead of being loyal to the company in the U.S.

---

### 3.7 Conclusion and Limitations

Drawing on JD-R and ED-R models, this comparative, cross-national study expands the body of knowledge by confirming, for the first time, the effect of several workplace characteristics on employees' outcomes in Germany and the U.S. and identifies differences between the two countries with different levels of work from home experience. According to the findings in this study, corporates with employees working in Germany and the U.S. should focus future efforts on developing strategies to reduce workplace demands (isolation and family–work interference) and enhance workplace resources (equipment/facilities and skill variety) to support employees to work from home successfully. Based on the research outcomes, one recommendation suitable for both countries is to implement a flexible workplace policy that allows employees to work from home or in the office depending on their needs. However, because there are many factors that influence the home workplace management regarding national culture, it is hard to find a single best solution for all corporates. Based on the research findings, corporates in the U.S. should especially focus on reducing employees' feelings of isolation. In Germany, corporates need primarily strategies to reduce employees' family–work interference. As a result, employee productivity improves and employee turnover intention reduces. The findings of this study help improve the workplace and work at home. Based on the knowledge of country-specific differences of individual influences, adapted corporate strategies of different company locations can be developed. Some limitations of this study can be addressed through future research that should continue to be carried out in-depth. The unique opportunity of the COVID-19 pandemic period, with its high work from home rate in both countries, represents a first weakness as it limits the time period over which the study was conducted. Future research should be conducted outside the pandemic period to verify results and analyse whether the positive association between burnout and productivity prevails. Second, although the requirements and resources in this study were intentionally selected and, for the first time, included four employee outcomes simultaneously, the diversity of workplace characteristics has not yet been conclusively captured. No isolated occurrence of outcomes takes place for the combination of demands and resources, and the possibility of accumulation and internal influence of individual influences is not ruled out. Because multivariate effects of workplace characteristics on employee outcomes are assumed to lead to a more accurate result, future research should study further combinations of predictors. Third, multi-group analyses with countries that are culturally even more diverse should be practised in addition to the two Western nations under consideration in this study. Comparing only Germany and the U.S. based on their level of work from home establishment, culture and work organization is also prone to systematic

---

sources of error (bias). This limitation of cultural comparisons should be rolled out in future research by achieving full-scale equivalence.



---

## 4 Article 3: Work from Anywhere: Traditional Workation, Coworkation and Workation Retreats: A Conceptual Review

---

Title: Work from anywhere: traditional workation, coworkation and workation retreats: a conceptual review<sup>5</sup>

Authors: Kyra Voll, Technical University of Darmstadt, Germany  
Felix Gauger, Technical University of Darmstadt, Germany  
Andreas Pfnür, Technical University of Darmstadt, Germany

Published in: World Leisure Journal

### Abstract:

‘Workation’ is a new type of remote work in response to the increasing digitalisation and flexibilization of work. By facilitating a combination of the domains of work, recreation and private life with an optional touristic-oriented pursuit, workation spaces promote flexible work practices and have significant impact on the working lives of knowledge workers, companies and several industries worldwide. While the original task of the real estate industry is to provide jobs in the form of offices, new players are suddenly entering the market, such as the hotel industry. This interesting mixture opens up exciting research approaches. There exists a rather extensive knowledge gap in literature understanding these work–leisure activities. Particularly striking is the lack of a clear classification of workation and little empirical evidence on workation exists. Therefore, this paper aims to provide a coherent descriptive basis, definition and classification of workation based on first empirical evidence by outlining a case study. The conceptual analysis finds that workation can be categorised in three types—traditional workation, coworkation and workation retreat—each with different characteristics. Finally, affected industries are studied and effects from workation on economies are shown. By providing a first taxonomy of workation, this paper might serve as a basis for further research.

### 4.1 Introduction

In the last decade, it has become clear that knowledge work can be carried out remotely and is location-independent. Furthermore, the pandemic has altered attitudes in ways that support a shift to remote practices, such as adapted HR practices, information and

---

<sup>5</sup> This is an Accepted Manuscript of the article Work from anywhere: traditional workation, coworkation and workation retreats: a conceptual review from Voll, K., Gauger, F., & Pfnür, A. published by Taylor & Francis in World Leisure Journal on 19 Oct 2022, available online: <https://www.tandfonline.com/doi/abs/10.1080/16078055.2022.2134199>

---

communication technologies (ICTs) infrastructure and organisational capabilities. COVID-19 has pushed the boundaries and norms of how often and what impact remote office has on work environments. In particular, the experiences of recent years have changed social norms; mobile work is less stigmatised (Barrero et al., 2021) and is no longer associated with shirking or hiding. It has also become apparent that performance and productivity are not managed by attendance but based on good work.

Working from home (WFH) is beneficial to a wide range of employees and can increase work effort, work satisfaction and productivity, and provide more autonomy and flexibility (Pfnür et al., 2021a; Bloom et al., 2015). DeFilippis et al. (2020) find that WFH involves more (but shorter) meetings per day, more emails and longer workdays. There is also a body of research that emphasises the negative effects of working from home. On the one hand, people like the blending of work and private life, shorter commuting distances, flexibility in terms of time and place, and the high degree of autonomy. On the other hand, not everyone copes well with the blending of private and work life and would like to have more distance between these two areas of life. The downsides, such as being always on (Reinke, 2018), less work–life balance (Wang et al. 2021), loneliness (Bloom et al., 2015), and bore-out (Starchos/Schüll, 2021), affect family relationships, work–life conflict, satisfaction, health, and well-being.

To overcome premise-based factors that home offices cannot serve, such as the office environment, proximity, networking and collaboration, employees have reacted with making use of so-called ‘third places’, a term coined by Oldenburg (1999) to describe places that serve for work but also for social gatherings. The most common institutions of contemporary third places are coworking spaces that provide a professional work environment and infrastructure (Gauger, 2021).

In contrast, people are also deliberately looking for the opportunity to work remotely away from home and at the same time to combine leisure, vacation and work in the best possible way. In addition to local coworking spaces, new opportunities for a locational and perspective change are increasingly emerging in the form of workation. The topic of workation has received little scientific attention to date. In addition, there is a lack of meaningful fundamental data for describing the development based on which potentials and forecasts can be derived (Engel/Scharting, 2021).

Thus, the study aims to give an overview of the emergence of workation. It is conceptual and derives the taxonomy of workation from the literature, classifies it in the research strand of

---

new work and remote practices, and has the goal to provide a clear definition and delimitation of workation with outlining a case study.

The methodology to construct the taxonomy follows a grounded approach. First, a spatial overview of workplaces is given, classifying workation in the context of Oldenburg's (1999) sociological concept of third places. Based on a grounded literature research, a classification of workation is proposed. Furthermore, the different characteristics are elaborated and illustrated and the effects on the hospitality and real estate industry are analysed. The work of traveling professionals, and working holiday tourism (WHT) need to be distinguished from workation and are therefore not included in this study. Finally, a deeper understanding is achieved through a short empirical case study. The case consists of six informal interviews, that were held with participants of workation during their stay in Fuerteventura in 2021. The themes of the interviews are based on the literature research and used to confirm or disconfirm literature findings.

The study derives three types of workation—traditional workation, coworkation and workation retreat—each with different characteristics and gives a comprehensive definition of workation as the location-flexible work, where the domains of work and leisure/vacation blend. Through the case study, some aspects identified from the literature can be confirmed and others are refuted.

The study contributes to the strand of post-COVID literature whose focus is on where jobs will be done in future and on alternative work environments. A comprehensive classification will help scholars for a future roadmap and research agenda. The effects of workation on the different levels studied are helpful for scholars, practitioners and decision-makers in industry as well. They give first hints about their impact for the real estate, hospitality, tourism and destination industries.

## **4.2 World of Work Developments**

### **4.2.1 Spatial Development of Workation**

Fundamental changes in the world of work are paving the way for modern forms of work. Digitalisation, globalisation and technologization are three key drivers of an increasingly digital working world (Jacobs/Gussekkloo, 2016). While Oldenburg (1999) posits that for a healthy existence citizens must live in a balance of three areas, which he refers to as home life, the workplace and inclusive social places, the boundaries of these three places are increasingly blurred in the modern world and additional places emerge.

Nowadays, work results can be achieved regardless of one's physical presence in an office (Jacobs/Gussekkloo, 2016). Just recently, the COVID-19 pandemic made it clear that the home also functions as a place to work for many people (Pfnür et al., 2021a). This forced global test run marks a milestone in the evolution of work from office to work from home. In society, the preservation of new forms of work is also increasingly creating demand for flexible models. In addition, the community aspect and the sharing of locations are playing an important role (Werther, 2021a). From an employee perspective, this immediately gives rise to another trend: 'work from anywhere'. With flexible work structures setting new ways of working while using digital technologies, permanent workplaces become redundant (Thompson, 2018). *Table 14* provides an overview of the development of workplaces.

Table 14: Workplace Development

Classification	Segment	Specification	Example Sources
First place	Home	Telework	Krabaritu-Manitakē, 1988; Kleemann, 2022
		Work from Home	Blok et al., 2011; Pfnür et al., 2021a, Bloom et al., 2015
Second place	Office	Corporate Office	Appel-Meulenbroek et al., 2018
Third place	Flexible Office Spaces	Coworking Spaces	Spinuzzi, 2012; Orel/Bennis, 2021, Gauger, 2021
		Business Center	Weijts-Perrée et al., 2016
	Public Spaces	Mobile work in a café, restaurant, library	Di Marino et al., 2018
Fourth place	Multilocality	Hybrid Work	Gauger et al., 2022a
Fifth place	Workation	Traditional Workation	Werther, 2021b
		Coworkation	Wolf, 2016; Lietzau/Puhe, 2021
		Workation Retreat	Bähr et al., 2020, Mendoza Villaneda, 2019

Augmentation	Digital Space	Cyber Space	Williams/Schubert, 2018; Kellner et al., 2020
		Metaverse	Cho/Lee, 2022

Before industrialisation, living and working usually took place under one roof. This often prevailing unity of living and working was disrupted by the development of the agrarian state into an industrial state. Later, an increasing share of knowledge-intensive activities for a large part of the workforce spatially dissolved the connection between life and work.

Since then, the traditional workplace for knowledge workers has been the office. Starting in 1980, statements of workers and employees began circulating that as a result of ICT development, there is no longer any need for knowledge workers to work entirely at the workplace (Johns/Gratton, 2013). Technologization and emerging flexible work models allowed more location-independent work. The earlier subject of study, known as ‘telework’, has in recent years, and especially during the COVID-19 pandemic, often been considered under the newer label of ‘home office’ (Kleemann, 2013). Nevertheless, the origins of telework go back to the late 1970s and early 1980s (Krabaritu-Manitakē, 1988; Kleemann, 2022).

In connection with the emerged location-flexible possibilities, so-called ‘third places’ like public and inclusive social places or coworking spaces can be considered as contemporary workplaces (Gauger, 2021). Coworking spaces have been boosted further by COVID-19 and have been particularly popular with people who want to overcome the disadvantages of the home office, such as poor spatial conditions, but still want to work remotely and flexibly (Del Alonso-Almeida/Perez-Encinas, 2021). Cabral and van Winden (2022) propose that especially in dynamic times, collaboration helps to identify opportunities and make better use of resources. This leads to a further development of the business model: the increasing establishment of coworking spaces close to home and penetrating rural regions far away from the large urban centres in prime locations (Hölzel/de Vries, 2021).

Multilocality of work enables the use of more places to work than just the home and corporate office. In hybrid workspaces, employees work both from home and from an organisational workplace while virtual technologies are used to connect the two spaces (Gauger et al., 2022a).

---

In addition, though an extended presence of technology physical workplaces are increasingly augmented by cyber space (Halford, 2005; Kellner et al., 2020) and metaverse (Cho/Lee, 2022) as new types of digital workplaces.

In summary, new opportunities for a change of location and new perspectives of workspaces are on the rise. This new type of remote work, workation, which is the focus of this study, is increasingly emerging and could be classified as a ‘fifth place’. In the United States, the term ‘workation’ dates back to 2015 (Silverman, 2015). In other parts of the world, for example Japan, the concept began in approximately 2017/18 (Matsushita, 2021a).

#### **4.2.2 Lifestyle Development**

Whereas the previously elaborated development primarily addresses the spatial perspective of multilocal working, the linking of work, technologization and globalisation has also given rise to what is probably the most extreme form of flexible work: digital nomadism (Makimoto/Manners, 1997; Kluth, 2008; Orel, 2019). Individuals who work multilocal and move back and forth between the third, fourth and fifth places are often referred to as ‘digital nomads’. The majority of these are entrepreneurs who can flexibly and independently schedule their work tasks and do not depend on much more than the internet and their notebook (Aroles et al., 2020; Chevtaeva/Denizci-Guillet, 2021). This allows them to work from anywhere in the world (Bähr et al., 2020). In addition, such digital workers give up their residence to live a multilocal lifestyle. Due to the change in perspective of digital nomads, who extend the concept of work–life balance to one extreme, work–leisure balance, work is understood as part of one’s lifestyle and the work environment is chosen according to private interests rather than professional circumstances (Hensellek/Puchala, 2021). The lifestyle of digital nomads resembles a workation in part, but for them it is rather a permanent state of travelling. However, it is not excluded that digital nomads perform a workation (Chevtaeva/Denizci-Guillet, 2021). One could for example consider their use of a coworking-coliving space at a touristic area as a workation (Chevtaeva, 2021; Loryn, 2022). Coworkation can become networking sites for international communities of digital nomads (Lietzau/Puhe, 2021). Other users can experience the positive effect of knowledge exchange with digital nomads from which both sides benefit (Gast et al., 2017). Hence, the focus of this study is on venues that attract digital nomads but also knowledge workers in general. The following section focuses on the fifth place and classifies the concept of workation.

---

### 4.3 Traditional Workation, Coworkation, Workation Retreat – Definition of Terms

Workation is seen as one of the great opportunities of remote work (Hagen, 2016). The term ‘workation’, which literally means a combination of work and vacation, is defined in various ways. The concept needs to be distinguished from coworking spaces, as those have originally evolved as a professional place to work with a sense of community other than the corporate office or the home office. These places relate to work and the office as space, and merely overlap through networking events or after-work events with the domain of private life and leisure and do not relate with the domain of vacation at all. The aspect of building a network plays a subordinate role in workation (Lietzau/Puhe, 2021). Rather, workation focuses on balancing work–leisure relations (Orel, 2019). It is characterised by blurred boundaries between leisure, travel and work with locations offering access to ‘plug & play’ technology (Lietzau/Puhe, 2021); i.e., it must be possible to work in an uncomplicated manner at the vacation location. Thus, workation is a hybrid version of a vacation stay with additional work phases (Werther, 2021b). The main reason for workation is the combination of an individual workstyle, a high investment in one’s own lifestyle and the ability to work at a place where this balance can be maintained. Users are leisure-oriented and/or like to stay abroad while still having the need to find meaning in work with a healthy balance of both (Lietzau et al., 2021). Users appreciate the blending of both areas and value the short distances between leisure activities (e.g., sports, yoga, beach), and the possibility to work from anywhere. An important prerequisite for workation is a workspace with good technical infrastructure. Meeting like-minded people can also be seen as a positive side effect by some users.

Workation can be separated in three sub-types:

*a) Traditional Workation (Workation in the narrower sense)*

Traditional workation is characterised by working at a typically vacation destination. This can be working from a hotel, but also from an apartment, Airbnb or cottage. Workers stay overnight where they work (Lietzau/Puhe, 2021) and benefit from the recreational value the hotel or destination offers (Werther, 2021b). Hence, both, leisure and work time are spent at the same location. This type of workation is typically short to medium term, but does not have to have a defined end date from the beginning.

*b) Coworkation*

‘Coworkation’ (also ‘co-workation’) shows characteristics of an ‘event’ as it is often offered as a package with a fixed start and end date and a certain period of time. It is associated with a like-minded community or even a fixed group (Kastner, 2020;

---

Matsushita, 2022b), whereas traditional workation is more common on an individual and flexible basis. Coworkation shows certain characteristics of coworking. The focus is on the community that exists when work is performed together at a recreational destination, often supported by an active community management (Lietzau/Puhe, 2021). In contrast to working in a coworking space, where users stay there only to fulfil their workload, the coworkation user also spends recovery time there and sleeps in on-site accommodations (Kastner, 2020). Hence, the combination of a coworking space and co-living space in a recreational area is characterised as coworkation.

### *c) Workation Retreat*

Workation retreats have the domain of work in the center of attention with equal links between leisure and community. Operators can be characterised by explicitly focussing on workers and additionally offer signature leisure activities to make use of the recreational value after-work and their main purpose is not on tourists (in contrast to traditional workation or coworkation, where tourist destinations mainly focus on tourists and offer workation as an additional model). The focus lies on withdrawal from familiar surroundings to work by providing professional space for work and providing leisure and community features (Mendoza Villaneda, 2019). For example, analogous to a yoga retreat that focuses on the practice of yoga while at the same time offering accommodation, a workation retreat focuses on digital, creative work in combination with accommodation and offers additional special leisure features, like yoga. It does not necessarily have to be at touristic destinations, but can be found in rural or isolated areas with scenic areas (Lietzau et al., 2021).

While demarcations are blurred, other forms are also evident but some are hard to distinguish such as incentive trips. *Figure 11* highlights the focus of traditional workation, coworkation and workation retreat. While traditional workation is based on the symbiosis of work and vacation (upper corner), classical coworking would be based between work and community without the domain of vacation (left corner). Coworkation is the combination of coworking and vacation (Werther, 2021a), and consists of a mixture of leisure, work and community (Engel/Scharting, 2021), thus marking the centre of all three areas. Workation retreats are placed on the edge of the intersection of vacation and community with a shift towards work.



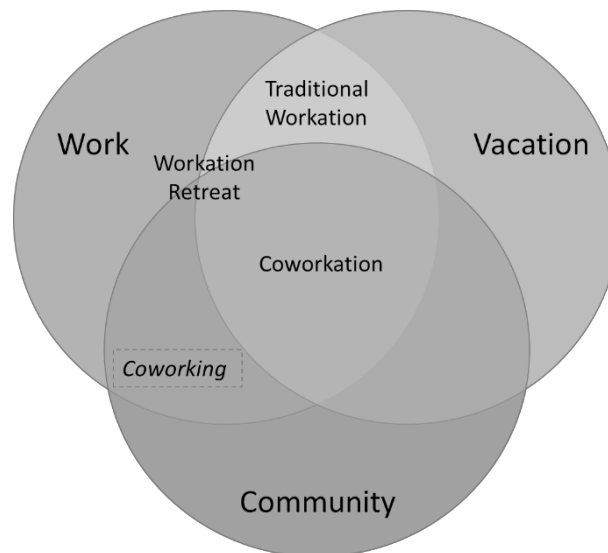


Figure 11: Workation types in the context of the three domains: Work, Vacation and Community (based on Engel/Scharting, 2021)

### 4.3.1 Characteristics of Workation

Taking a deeper look at the three workation sub-types, a variety of features and characteristics, like the reason for a stay, attracted user groups, location, length of stay, or the mode of operation occur. Within the description of the characteristics, the first paragraph talks about the subtype traditional workation, the second about coworkation and in the last paragraph about workation retreat. Only in the case of the mode of operation, this delimitation is dispensed with, since the boundaries cannot be drawn clearly enough with the providers existing at the present time. *Table 15* shows a summary of all aspects.

Table 15: Workation Sub-type Classifications

	Traditional Workation	Coworkation	Workation Retreat
Reasons for a stay	<ul style="list-style-type: none"> <li>• Break from everyday life, the city or the climatic conditions at home</li> <li>• Combination of the necessary with the useful, achieving a hybrid urban-rural life or the desire for a sustainable travel experience with a professional workspace</li> <li>• ‘Doubling of time and place’ through superimposing work and leisure time</li> <li>• Positive health impact</li> </ul>	<ul style="list-style-type: none"> <li>• cf. aspects traditional workation</li> <li>• Interdisciplinary exchange, collaborating, networking, joint development and building synergies</li> </ul>	<ul style="list-style-type: none"> <li>• Achievement of a work goal</li> <li>• Atmospheric reasons</li> <li>• Draw on the inspiration of secluded places, as a creative hub</li> <li>• Work-life balance fulfilment or off-site team activity</li> <li>• Change of mindset, enriched experiences combined with networking opportunities and professional and personal development</li> </ul>

User group	<ul style="list-style-type: none"> <li>• Efficient organisation of work and leisure time, focus on combining work with recreational phases</li> <li>• Explicitly book a workation and book themselves in for the long term (no fixed end date needed/extensions possible)</li> <li>• Plan a normal vacation but use the workation premises to work some days</li> </ul>	<ul style="list-style-type: none"> <li>• Individuals who want to work in a work atmosphere with like-minded people</li> <li>• Corporate (project) teams and business customers that work towards a common goal while searching for an alignment of an inspiring work situation in an attractive environment</li> <li>• Self-employed and employed users</li> </ul>	<ul style="list-style-type: none"> <li>• Those who love their work but see a challenge in the work–life balance</li> <li>• Often decision-makers who can be seen as multipliers for corporate and work culture</li> <li>• Students, for example preparing for exams or writing their thesis</li> <li>• Researchers, or entrepreneurs with challenges such as for example writing a business plan</li> <li>• Corporate segment: time off both for joint project work and as an off-site team event</li> </ul>
Location and length of stay	<ul style="list-style-type: none"> <li>• Places with recreational value</li> <li>• Individual activities can be pursued either alone or in a group as long as reliable opening hours of offered workspaces, good equipment and internet access are available</li> <li>• Varying durations even at regular intervals</li> </ul>	<ul style="list-style-type: none"> <li>• Unusual, often warm places to explore, offering good weather and beaches with quiet environment for recreation</li> <li>• Often offered as a package with a fixed start and end date and a certain period of time (like an ‘event’)</li> </ul>	<ul style="list-style-type: none"> <li>• Places of retreat with a high quality of stay, often small, owner-operated properties with individual design and intensive care</li> <li>• E.g., small remote, scenic locations, away from tourist centres, or unique spaces, such as a boat</li> <li>• More often for a (short), work-focused stay with recreation</li> </ul>
Operation mode	<ul style="list-style-type: none"> <li>• Temporary pop-up projects</li> <li>• Work camps</li> <li>• Festivals</li> <li>• Professional coworking spaces in vacation resorts</li> <li>• Combination of multiple workation types in a hybrid model</li> <li>• New long-term, or already established places for new work</li> <li>• Fully organised, or self-organised on one’s own initiative</li> <li>• Off-sites or other multi-day or multi-week project meetings and stays</li> <li>• Organisation and provision of working space, accommodation and catering through provider</li> <li>• In coworkations additionally: active community management (for example by creating opportunities in their existing apps or platforms to connect workers)</li> <li>• Need for space and room can be met by a variety of workspaces</li> <li>• Exemplary equipment features: individual workstations, lounge areas, group workrooms and closed meeting facilities</li> <li>• Organised leisure activities, training courses and events are conceivable</li> <li>• Surroundings inspire creativity</li> </ul> <p>Note: Design of workations is diverse and vendors often do not yet specifically assign their offerings to one of workation’s three sub-types.</p>		

*Reason for a stay*

---

Beginning with reasons for a stay, it becomes clear that traditional workation users opt for workation for a variety of reasons (e.g., Bähr et al., 2020; Lietzau/Puhe, 2021; Matsushita, 2021a). Some are looking for a break from the hustle and bustle of everyday life or the city, or the climatic conditions at home. For others, it is a combination of the necessary with the useful, achieving a hybrid urban–rural life or the desire for a sustainable travel experience, always wanting to find a professional workspace to effectively complete tasks. Matsushita (2021b) mentions the idea of ‘doubling the time and place’ through superimposing work and leisure time as an essential element of workation. In addition, the positive impact on health of workation in particular is cited as a popular reason by providers (Hometogo, 2022; TUI, 2022).

For coworkation users, interdisciplinary exchange while collaborating, networking, joint development and building synergies on site are additionally relevant factors. This can also achieve the formation of an online community of workation workers in a region to exchange information (Matsushita, 2022b).

Workation retreat users are often interested for atmospheric reasons and draw on the inspiration of secluded places, often in nature, as a creative hub to achieve a goal of their work (Hausmann, 2019). Through targeted leisure activities, such as yoga classes or the emerging tasks during a sailing trip, they seek the perfect integration of fulfilled hobby aspirations into their focused workday, for work-life balance fulfilment or as off-site team activity.

#### *User group*

An important feature of workation users is the goal of efficient organisation of work and leisure time. By relieving the burden of commutes and mundane tasks such as shopping and cooking, their travel behaviour is focused on combining work with recreational phases (Kastner, 2020). In terms of the user group addressed, users of the traditional workation can be distinguished between those who explicitly book a workation and book themselves in for the long term (several weeks to several months), possibly even without setting a fixed end date and extending several times in a row, and those who plan a normal vacation but still take one or two days a week to work and use the workation premises for this purpose (Lietzau/Puhe, 2021).

The concept of coworkation aligns with an inspiring work situation in an attractive environment (Werther, 2021a) and can target individuals, corporate teams and business customers (Mendoza Villaneda, 2019; Bähr et al., 2020; Out of Office, 2022). Individuals who want to work in a work atmosphere with people who are also committed to their work

---

and yet looking for exciting leisure activities, together with project teams that work towards a common goal can be seen as typical users of Coworkation (Coboat, 2022).

Coworkation and workation retreat users can also be compared to those working at rural coworking (Wolf, 2016). The ratio of employed users (35%) to self-employed users (40%) is roughly comparable (Bähr et al., 2020). In terms of their occupations, two groups stand out among the widely dispersed distribution. With 19% and 17% of all users of rural coworking spaces, which is comparable to coworkation and workation retreats as mentioned above, IT professionals and consultants, respectively, are the main users. Workation retreat users additionally include particularly those who love their work but see a challenge in the work–life balance. These are often decision-makers who can be seen as multipliers for corporate and work culture. But other user groups, such as students preparing for exams or writing their thesis, researchers, or entrepreneurs with challenges such as writing a business plan, can also benefit from the experience (Bähr et al., 2020). Additionally, workation retreats address the corporate segment (Surf Office, 2022). For this target group, this subtype becomes attractive as time off both for joint project work and as an off-site team event.

#### *Location and length of stay*

Regarding location and length of stay, in traditional workation, individual activities can be pursued either alone or in a group as long as reliable opening hours of offered workspaces, good equipment and internet access are available (Lietzau/Puhe, 2021). One goal of this type is to deliberately locate in places with recreational value (Bauer et al., 2017). Stays occur with varying durations even at regular intervals and individuals appreciate the high recreational value they receive in conjunction to their work.

Coworkation locations might be characterised through ‘exotic environments or places promising exploration of a new place or benefits of warm weather, beaches, or a calm environment for recreation’ (Chevtaeva/Denizci-Guillet, 2021, p. 202). In terms of length of stay, coworkation shows characteristics of an ‘event’, when it offered as a package with a fixed start and end date and a certain period of time.

Workation retreats can be understood as places of retreat with a high quality of stay (Bähr et al., 2020). They can be in small remote, scenic locations, away from tourist centres, or even unique spaces, such as a boat (Coboat, 2022). Often, small, owner-operated properties serve as those retreat places (Lietzau et al., 2021). Individual design and intensive care give the facilities their charm. Stays at these places happen more often for a short, work-focused

---

stay with recreation, like a team event plus after-work activities lasting several days, compared to traditional workation.

### *Operation mode*

In terms of operation and the time and logistical framework of the offers, temporary pop-up projects, work camps or even festivals as well as professional coworking spaces in vacation resorts and new long-term, or already established places for new work are also found (Lietzau/Puhe, 2021). The design of workations is diverse and vendors often do not yet specifically assign their offerings to one of workation's three sub-types. For this reason, no explicit distinction is made between the three subgroups at this point in the paper.

Some operators (see, for example, Coconat, 2022) combine multiple workation types in a hybrid model. Their business model is attractive to corporate employees, groups or individuals, and the characteristics are blurred. Additionally, workations can either be fully organised, or self-organised on one's own initiative (Jetzer, 2017). In contrast to coworking, the task of the workation provider lies in the organisation and provision of working space, accommodation and catering (Hometogo, 2022). As such, it could also involve coworking space operators that offer additional co-living spaces, and combine the professional working environment with inspiring community features for a short- or long-term stay (Bähr et al., 2020). In the case of coworkations, active community management is often additionally added (CoworkationAlps, 2022). As part of community management, coworkation providers create, for example, opportunities in their existing apps or platforms to connect workers TUI, 2022). The need for space and room can be met by a variety of workspaces. Organised leisure activities (Visitbergen, 2022), training courses (Surfparadies, 2022) and events (Coconat, 2022) are also conceivable. Individual workstations, lounge areas, group workrooms and closed meeting facilities can be mentioned as exemplary equipment features (Gohm, 2017). An overriding role is also played by the surroundings, which need to inspire creativity (Meyn, 2020). Therefore, especially coworkation and workation retreat are also well suited for off-sites or other multi-day or multi-week project meetings and stays. Successful outcomes that workation retreat users want to achieve include a change of mindset, enriched experiences combined with networking opportunities and professional and personal development (Mendoza Villaneda, 2019). In order to unite this balance between high productivity with creative breaks and relaxation, workation providers near and far are coming up with concepts that appeal to both private individuals and the corporate sector. A variety of concepts are being created, for example Surf Office (2022), where like-minded company is seen as the core element for an offsite team building experience, but still addresses the needs of many companies that do not want their employees to share their knowledge with external

people (Mendoza Villaneda, 2019, Coboat, 2022; Nomadcruise, 2022; Coconat, 2022). Another concept is offered by Aldiana (2022), which with its 'ClubOffice' promotes a match between club vacation and home office, where the users have a (culinary) all-inclusive offer at their disposal.

In the sharing economy literature, such workspaces are referred to as 'shared spaces'. Table 16 illustrates the different features and characteristics of workation compared to other shared spaces in the residential and office sectors.

Table 16: Features and Characteristics of Shared Spaces

	Shared Spaces				
	<i>Residential</i>	<i>Office</i>	<i>Workation</i>		
	Coliving	Coworking	a) Traditional Workation	b) Coworkation	c) Workation Retreat
Location/Region	Local	Local	Abroad/ touristy	Rural	Rural/secluded
Community	High	High	Small	High	Medium
Flexibility	-	Small	Medium		Small
Sector	Housing	Labour	Urban development/ regional planning	Tourism	
Operators	Often chains	Local and international operators	Larger chains, professional as well as small operators		
Domain	Residential	Work	Dissolution of work boundaries		Work focus

#### 4.3.2 A Derived Definition of Workation and Distinction from other Forms

In summary, workation is defined as follows based on the characteristics elaborated above:

*Workation describes the location-flexible work, where the domains of work and leisure/vacation blend. Workers tend to combine private and business life by working temporarily in a vacation location with the goal of high work–life–leisure integration.*

Following on from the above differentiation of the concepts of digital nomadism and workation, the work of travelling professional workers, for example, consultants, diplomats, or tourist guides, needs to be separated conceptually from workation (Uriely, 2001). In addition, WHT should also be distinguished from workation at this point, since WHT is known as a visa program for young adult tourists who combine unskilled and manual work with their holidays for a period of up to one year (Uriely, 2001; Meng/Han, 2018).

---

## 4.4 Effects on Participating Industries and Players

The proliferation of workation leads to changes for a broad variety of industries and might be strongly associated with economic and social conditions since working at tourist destinations as a further development of remote work has an impact on the development of recreational regions, the development of real estate and on the organisational design of this new flexible form of work for employers. Tourist regions must adapt to this completely new form of tourism and meet the demands of visitors who come to the destination not only to take a vacation, but also to work. The real estate industry, which originally provides workplaces in the form of offices, must evaluate an integration of such new concepts into its sphere of activity.

### 4.4.1 Effects on Regions and Branches

Barrero et al. (2021) estimate that the shift to remote working will lower expenditures on meals, entertainment, personal needs, and shopping in major cities by 5–10% of pre-pandemic spending. Assuming total spending remains constant, this 5–10% will be spent in the regions where work will increase in the future. In more rural areas and tourist hotspots and regions that deliberately focus on workation, this will lead to a shift in spending from high-density urban regions with high-density office space to comparatively low-density neighbourhoods (Fraja et al., 2021). Workation is perceived as promising for the tourism sector (Wiranatha et al., 2020; Lietzau/Puhe, 2021). In literature it is mentioned as one influence to reshape hospitality through new socio-spatial patterns of mobile digital work (Merkel, 2022). Especially during the pandemic and off-season times, workation opens opportunities not only for new businesses but also for established hotel chains through business models such as the short- or long-term rental of empty suites as private offices with additional hotel amenities (TUI, 2022; Tophotel, 2021). In Spain, for example, workation and the mobility of digital normads partially associated with it are reported to be more resilient than tourism in times of the COVID-19 pandemic and could be used there as a temporary substitute for the lack of tourist mobility (Moreno-Medina et al., 2022). Even for campground operators, new offerings are conceivable within the framework of existing infrastructure (Zilk, 2022; Camp-Work, 2022). This concept supports resilience of the hotel industry in seasonally driven regions, i.e., their resistance to economic fluctuations and crises is strengthened by workation (Allgäu, 2022). This does not remain without effects for the region. One positive effect of workation relates to local development. Through a year-round increase in the quality of life on site, the added value of the surrounding area also increases and no longer depends solely on the previous seasonal tourism component (Bähr et al., 2020). Furthermore, Bähr et al. (2020) describe workation as a solution to a structural

---

problem in that the concentration of modern workplaces in metropolitan areas can be understood as laboratories of a new flexible, innovative, mobile world of work.

Werther (2021b) notes that in the tourism, hotel and restaurant industries, the concept of coworkation has begun to have positive effects by relocating workforce to vacation spots. Existing offerings can be expanded and supplemented by additional services. Coworkation also makes a contribution in the area of regional development as further development of rural coworking (Wolf, 2016) even if other workers are addressed by the utilisation concepts there. If users from the surrounding area are also part of the target group, through active advertising and targeted support (Bähr et al., 2020), then possible conflicting demands of users from near can occur. However, there is a hybrid between tourism and regional development. On the one hand, already established regional economic cycles remain in place, generating local added value while on the other hand, regions that have so far been left in their natural state but have already been developed in terms of infrastructure can benefit in a new way (Engel/Scharting, 2021). The establishment of coworkation in combination with gastronomy and the hotel industry can also reveal exciting facets of destination development (Werther, 2021a). In addition, the visual presence of creative people in rural areas through their use of coworkation can lead to the formation and further development of clusters and cooperatives of creative people (Werther, 2021a). Thus, the cultural and creative industries count as another integrated branch (Hausmann, 2019). Another positive effect of coworkation can be to combat vacancies in rural areas (Kastner, 2020).

Workation retreats offer a lucrative market for corporate off-sites in that innovation and inspiration can emerge alongside a familiar convenience provided (Bähr et al., 2020).

#### **4.4.2 Effects on Real Estate Assets and Operators**

Literature has already elaborated on how remote work affects housing demand (Stanton/Tiwari, 2021), housing prices and rents (Ramani/Bloom, 2021). Literature agrees that demand for real estate in dense city centres has fallen, shifting housing demand to more spacious suburbs and less expensive cities. Commercial property prices are also declining in central business districts (Ramani/Bloom, 2021). Literature to date has not yet addressed the implications on resorts and hotels. If guests spend most of their budget within the hotel complex or surroundings, mostly having already paid for food and beverage with their package, then the hotel provider benefits from the spending that would have been otherwise spent at the corporate office's neighbourhood. Thus, the asset class hotel benefits from a new



---

customer segment. Regions participate indirectly from this new form of tourism as the hotel industry serves as a major employer for the local population.

Furthermore, workation guests extend seasons and increase utilisation ('stay nights') at times when there would otherwise be less visitation (i.e., outside vacation periods) (Lietzau/Puhe, 2021; Bähr 2020). Thus, the expanded business model strengthens resilience to economic fluctuations and crises when destinations rely on more than just leisure travellers.

The hotels with a MICE (meeting, incentives, conventions, and exhibitions/events) focus must make fundamental changes to its offerings in the long term as the mobility behaviour of business travellers is changing (Werther, 2021b). During the COVID-19 pandemic, regional destinations increased in importance as opposed to distant locations. This is because there is a high demand for mobile work opportunities, but travelling is only possible close to the local area. Particularly in the case of workation retreats for teams, offers such as country houses with a special flair that are completely available for rent are also conceivable, which means that the entire B2B market of exclusively rentable country houses, vacation homes and adventure resorts will continue to grow (Bähr et al., 2020). The combination of Coliving and Coworking (Werther, 2021a) through coworkation offers another approach. Here, the sense of community is extended beyond work to the living domain. Matsushita (2021a) describes that especially for Japanese culture, workation is expected to be a part of the revitalisation of local industries. In addition to the tourism sector, entrepreneurship, labour management and human resource development of companies are mentioned as affected areas.

#### **4.4.3 Further Effects**

Corporates might use the possibilities for workation as employer branding in the war for talent. First, corporates are already engaged in company agreements, for example with Vodafone, allowing their employees to work flexibly and up to 20 days per year abroad from European countries (Broszat, 2021). The time limit that corporates allow their employees to work abroad is usually due to social security and tax reasons<sup>6</sup>. Further examples are

---

<sup>6</sup> As a general rule, a residence and work permit can only be obtained with some degree of ease if there is a local subsidiary and recourse is made to intra-corporate secondment. However, this option is only available to a few companies. If employees temporarily transfer their remote work abroad, the decisive factor is which labour law applies. In the case of only temporary work abroad, this is generally less problematic. If this is shorter than four weeks, there is no need for action under labour law (at least in Germany). It is also not necessary to change the place of work from Germany to the vacation country in the employment contract, for example. However, it should be checked whether it is legal for the employee to work in the vacation country. Under certain circumstances, they may require a residence permit and/or a work permit. If the workation location is within the EU, there is no such problem for EU citizens because of the freedom of movement. However, what then needs to be clarified are the labour law requirements in the vacation country. What working time and break regulations as well as compensation rules apply to people working in the foreign country? Organisations need to know the relevant requirements - and this for each country individually (Fiebelkorn/Dotou 2022).

---

Vodafone that allows their employees to work abroad up to 20 days (Tödtmann, 2021) and TUI, which allow their employees up to 30 days per year working abroad (Sander, 2021; ManagerMagazin, 2021).

Digital platforms and regional networks can be beneficial for providers to learn from each other and jointly address existing or emerging challenges to overcoming global challenges. In the necessary close cooperation of actors from different sectors (e.g., municipalities/countries, coworkers, companies) and in the exchange of information, companies have a key role to play by implementing the spatial flexibilization of work as soon as the realisation of its added value in contrast to its costs is recognised (Kastner, 2020). An existing example is the transnational association ‘CoworkationAlps’, which offers a joint internet presence for marketing purposes to support operators and founders (Bähr et al., 2020; CoworkationAlps, 2022). In the future, a cross-thematic focus could also lead to overcoming specific problems in Germany with regard to the successful establishment of workation. Areas such as mobility, tourism, the local economy, remote work or communication can be linked through the use of digital technologies, for example, in order to break through a lack of offers or inadequate home–work regulations (Sept, 2020). In the long term, it seems possible that workation’s interdisciplinary nature and a transnational organisation will give it special visibility (Werther, 2021b). Overall, for a sustainable establishment of projects, a successful urban–rural integration is a prerequisite.

Work-from-anywhere, and especially making use of workation, accrues disproportionately to the highly educated and well-paid workers (Barrero et al., 2021) and also to higher income countries due to the higher proportion of self-employed workers in these countries (Gottlieb et al., 2020). These social consequences could ignite an inequity debate. At the same time, innovations are spurred with virtual consultations, enabling the flexibility to work from anywhere and also for doctors, psychologists, social workers, etc. that could not make use of remote practices before.

#### **4.5 Case Study using the Example of TUI**

In the following section, the case of workation at Robinson Club, a brand of the TUI group is outlined. In this case, data relating the general attitude to workation, the reasons for a stay, and characteristics of the attracted user groups, like their occupation and length of stay were collected with informal interviews during the participants stay at Robinson Club Fuerteventura. The on-site survey during coworking allows the experience to be captured in a timely and unbiased manner. Thus, the interviews are not based on memories of the interviewees, but can be reproduced based on their current situation.

---

#### 4.5.1 Workation at TUI – Mode of Operation

The TUI group was a market leader that promoted Workation@Tui (Robinson, 2020) in late summer 2020, starting with specially designed workation rooms in their premium brand Robinson and later spreading to their brands Magic Life and Tui Blue. Their workation rooms consist of a family hotel room (two rooms) being equipped with a desk, desk chair, monitor, keyboard and own high-speed internet access via WLAN or Lan. A public Wi-Fi was ensured in all public areas of the premise. According to TUI, after launching their concept, their rooms were booked within one day of launching the project<sup>7</sup>. Starting in Fuerteventura, they soon rolled this new business model to their Spain, Portuguese and Turkish clubs. They aim at ‘working long-term guests who want to work on the road and at the same time enjoy the benefits of the pleasant vacation atmosphere’ (Robinson, 2020). TUI blue started to offer workation in various hotels in 2021 around the world, terming this as a ‘new working philosophy’. To date, TUI lists ten TUI Blue hotels for workation, five Robinson Club hotels and one Magic Life Club hotel (TUI, 2022).

#### 4.5.2 Data Sample Characteristics

In May 2021, six workation guests were interviewed and observed during their stay at Robinson Club Fuerteventura (location). The observation phase took place during the second lockdown period in Germany 2021. For the assemble of participants, stratified sampling was used. The goal of surveying different genders of various ages with a wide range of occupations and marital status is to capture a broad range of perspectives and derive a representative overview. Participants were 35,3 years on average. The interviews were held informally to foster the respondents to speak more freely and openly to gain an understanding of the workation settings and its users' ways of seeing (Cohen/Crabtree, 2006). Qualitative interviews count as an important possible source, especially for event-related information and in early stages of developing a topic with little literature to date (Vogel/Funck, 2018; Cohen/Crabtree, 2006). According the chosen settings, all interviews were conducted in-person. Two interviews were conducted at the bar area, two during dinner in the restaurant, one more formally at the conference room and one during a walk. The shortest interview was around 15 minutes long, and the longest lasted around an hour. Notes were taken during and after the interviews. For the analysis, the qualitative content analysis method was followed and a thematic analysis with a deductive approach was

---

<sup>7</sup> An informal interview was conducted with the General manager of Robinson Club Quinta da Ria in Portugal, soon after introducing workation in the first hotel at Portugal.

performed (Mayring/Fenzel, 2019). A summary of the interview framework data is shown in *Table 17*.

Table 17: Interview Summary

#	Reasons for a stay	User group				Location and length of stay		Operation mode
		Gender	Marital status	Age	Occupation			
1	High work–life balance	Male	In partnership	42	IT specialist (data security)	Robinson Club Fuerteventura	4 months	Workation at TUI: Workation rooms (family hotel rooms = two rooms); equipped with desk, desk chair, monitor, keyboard and own high-speed internet access via WLAN/Lan
2	Short and frequent downtimes directly after work	Female	Single	32	Change management consultant		3 months with interruptions	
3	Sports facilities	Female	n.a.	35	Business consultant		3 weeks	
4	Community, escape from isolation, lack of alternatives at home	Female	Single	29	Journalist		Several times between May 2021 and October 2021	
5	Combining working with sport and recreation	Male	Married	39	Insurance broker		Three times two weeks	
6	Self-fulfilment	Male	In partnership	35	Broker		Two weeks	

#### 4.5.3 Findings and their connection to literature

Two workers stayed at the hotel for mainly vacation-related reasons with the intention to work intermediately. Concerning the length of stay both guests had the intention to stay for two weeks: guest #1 stayed 4 months in total, extending his workation stay several times; guest #2 stayed for 3 months with two interruptions. Thus, the interviewees confirm the literature, which reports that workation workers stay for a week up to half a year (Matsushita, 2022b). In the present case study, the guests self-organized their workation on their own initiative, thus confirming a process of organisation already proclaimed in the literature (Jetzer, 2017) as opposed to the possibility of participating in an organized workation, which was also presented.

---

The reasons for choosing workation were quite similar for all workers. The majority said they like the variety of offers at the hotel while one said it was the ongoing isolation at home during lockdown period (#4). Through close leisure activities, guest #6 states that he seeks the perfect integration of hobby aspirations into his focused workday, for self-fulfilment in both areas. Short distances to travel after work and the elimination of organisational tasks (such as cooking) were reasons given for extending their stays. The statement that even the stays were prolonged from the aspect of relief from everyday tasks confirms findings in literature about the positively striking aspect of the omission of shopping and cooking during workation (Kastner, 2020). Four workers (all self-employed) reported that they worked fewer hours intentionally because they wanted to ‘recharge their batteries’ (#3), take advantage of the sun (#5), or wanted to deliberately enjoy a higher proportion of free time. Thus, the predicted goal of workation users intentionally locating in places with recreational value thus occurs (Bauer et al., 2017; Werther, 2021b, Chevtaeva/Denizci-Guillet, 2021). In the case of the two hotel guests, the high level of individual initiative and motivation to pursue personal goals in addition to work was noted. Guest #5 was a successful hobby tennis player who used his free time for training. Another guest (#3) was a passionate runner and used the time besides work to prepare for athletic competitions. Those findings underline statements in literature mentioning a focus of workation on work-leisure-balance (Orel, 2019) through a hybrid version of a vacation stay with additional work phases (Werther, 2021b). Guests also mentioned the closeness to the hotel’s staff and liked being treated as regulars, ‘knowing their way around’ and demonstrating tendencies of locals. Thus, guests not only used the hotel’s own facilities but also took advantage occasionally of the options offered by local restaurants and bars. This behaviour supports the in literature stated assumption that workation is considered promising for the tourism sector (Wiranatha et al., 2020; Lietzau/Puhe, 2021).

Guest #2 stated that all meetings with clients took place online; thus, no restrictions were perceived while working from the workation destination. “Some of my clients do not even know I work from abroad, some that I have a close relationship with, know that I work from Fuerteventura.”. As already noted by Jacobs/Gussekkloo (2016), the guest's statement confirms that work results can be achieved regardless of physical presence in an office nowadays. One guest (#5) had many phone calls, not only from his workstation (equipped hotel room) but also at the pool or in other public areas.

Guest #2 reported that he spent around 3,500 EUR per month on the workation stay. Moreover, she stated that the workation stay was an investment in her ‘mental and physical condition, and performance. Every day was like a gift’. This is consistent with the benefits

---

advertised by providers of improved health through workation (Hometogo, 2022; TUI, 2022). No one reported being afraid from COVID-19. Rather all observed rated their stay in the workation as being beneficial to have little exposure to COVID-19, lockdowns, or mutations. This fact gives rise to the cautious assumption that workation users might be a more risk-averse and less fearful type of person. However, this assumption could not be verified in this study.

Because the Robinson Club had also previously been booked regularly by companies for off-sites, conventions and business meetings lasting several days, the facilities already had certain competencies in dealing with business travellers in advance (Robinson, 2022). The Incentives and Meeting Manager took on the role of community manager, analogous to that of a coworking space and was available to workation guests for inquiries, assistance, conference room reservations and IT issues CoworkationAlps, 2022. “My computer mouse broke and I immediately got a new from the IT manager of the hotel. That was much faster, then I could get one at home (#2). Consequently, the guests appreciate the convenient services and make use of the assistance that is offered not only for the hotel guests, but especially also for the workation guests (Lietzau/Puhe, 2021). Literature shows similarities between workation and coworking spaces, where people tend to favour the services offered, the IT, and infrastructure, which they do not have to take care of (Gauger, 2019). Summarizing, the case study shows that the interviewees had a different focus during their workation stay but that all of them consciously sought change and assigned a high value to their leisure life. While one attended yoga classes after work, others pursued athletic goals in their personal lives; for the other, it was the convenience of not having to follow home obligations and having more intentional quality time.

It is possible that for guests, especially those who are single and had fewer social interactions at home during the lockdown, the social aspects are of utmost relevance when deciding to go on workation. It was not uncommon to see coworkers at the bar in the evening, even though it was a normal "workday" for them. This shows that the coworkers have built a good network, like to connect, and seem to be open-minded and regularly want to meet new people, confirming Mendoza Villaneda (2019) mentioning networking opportunities during workation. Also, the social factors are essential and the bar and the range of leisure activities in general are part of the overall package of workation. What is tried to be achieved in the coworking space via separate events such as the afterwork beer or afterwork networking event, this takes place in a workation setting quite naturally and incidentally and as a matter of course. However, this finding of the enormously large role of social interaction then

---

possibly contradicts the literature (e.g., Lietzau/Puhe, 2021), which states that the aspect of building a network plays a subordinate role in workation.

#### **4.6 Concluding Remarks**

This study is explanatory in nature and draws attention to a new form of shared spaces and remote work, also referred to as a ‘fifth workplace’: Workation. Current definitions, although they exist, lack a clear classification and ignore the different domains involved in the different types of workation. A clear understanding of the term and characteristics is required to start the conversation regarding workation in workplace research. First, conceptual contributions are made to understanding the blending of the domains of private life, work and vacation. Users that ‘workate’ value high work–life integration and seek benefits from the combination of leisure, vacation and work (e.g., Bauer et al., 2017; Werther, 2021b, Chevtaeva/Denizci-Guillet, 2021). This fact was also confirmed by the case study conducted. The reasons for and the length of stay as well as the user group derived from the literature were reflected and substantiated in the case study for the specific workation location in Fuerteventura with the operation mode developed by TUI. Overall, primarily the sub-type ‘traditional workation’ can be identified in the case study, although some interviewees mentioned characteristics of the other two sub-types. This also confirms the finding that the design of workstations is very diverse and, to date, offerings often are not and cannot yet be clearly assigned to one of the three subtypes of workstation. While workation is not yet an integrative part of the traditional knowledge worker’s life, it has spread quickly during the COVID-19 pandemic. Following Mendoza Villaneda (2019), workation is the beginning of a slowly infection of the corporate world, opening up the opportunity to change the cultural mindset. Looking at popular and scientific literature on workation, it is clear that there is a high increase in demand. This observation is also supported by the evaluation of Google Trends (see *Figure 12*) and the increasing willingness of employers who include the possibility of workation in their company agreements and job advertisements.

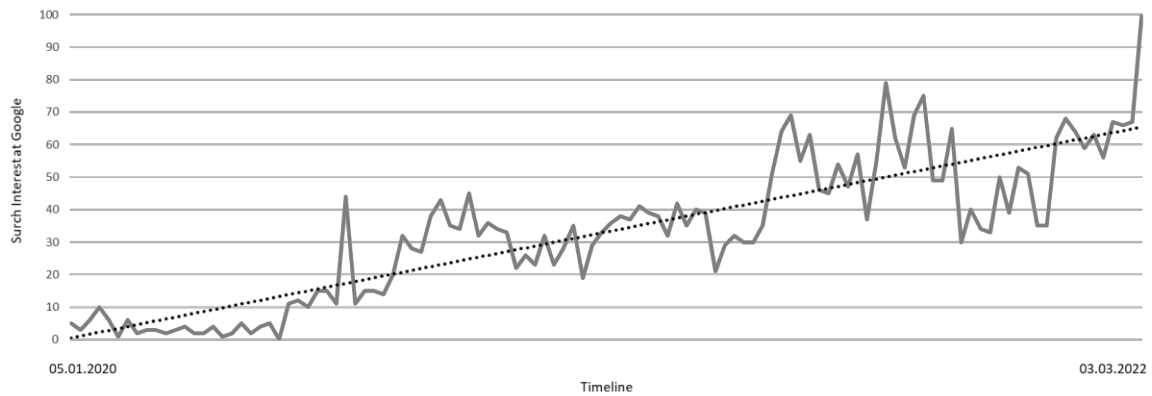


Figure 12: Google Trends for Keyword 'Workation' (based on Google Trends, 2022)

It is assumed that workation will gain momentum in the future world of work and a conscious and flexible division of work phases will be desired. The possibility of being in vacation mode immediately during work breaks, after work or at the weekend attracts a broad user group. Again, the case study provides evidence of such an assumption, through the diverse individuals in even this small sample. While workation was mainly begun by freelancers and start-ups, corporates are also joining this development. In economic terms, a response to this increasing demand can be expected in the form of further increase in supply in the future. However, the small sample size of the case study is a limitation of this study. Also, the fact that only the operation mode of one workation offer at one location was considered and the lack of quantitative analysis limit the predictions derived.

The study opens the door to a new stream of studies regarding work-leisure activities and venues. Future research should address this issue on the regional, socio-economic and ecological level by conducting further studies on workation based on empirical data. There is a need for future debate on policy changes to attract workers to workation destinations. For scholarly research, it would be interesting to further investigate the lifestyle of workers making use of the different types of workation. Is the occasional business traveller, the digital nomad or expat a typical customer of this new business model? Which travel patterns and workation use are related? Another exciting question about the future of workation will be how it remains part of a long-term and comprehensive development. These research findings can help move beyond traditional tourism concepts and recognise hidden characteristics such as connecting people on a professional level and looking for regional advantages like cultural, food and business opportunities. Moreover, it could also stimulate the real estate industry to become more active in this specific area of shared workspace provision as well.



---

---

## 5 Article 4: Employees' intention to adopt the digital workplace – the role of companies in promoting the digital transformation

---

Title: Employees' intention to adopt the digital workplace – the role of companies in promoting the digital transformation<sup>8</sup>

Authors: Kyra Voll, Technical University of Darmstadt, Germany  
Yassien Bachtal, Technical University of Darmstadt, Germany  
Andreas Pfnür, Technical University of Darmstadt, Germany

Published in: Humanizing the Digital Workplace: Creativity, Innovation, and Leadership in the Age of Technology, Orel, M.; Černe, M. & Wong, S. I. (Eds.)

### Abstract:

For many knowledge workers, location-independent work is part of the new normal in the world of work. Therefore, individual and team work is more frequently taking place digitally. This physical separation of employees increasingly requires a connecting element to avoid productivity losses and support corporate loyalty. Suitable workplaces are necessary to avoid any loss of productivity and support corporate loyalty among employees. A technology-supported component that enables temporal and locational distributed knowledge work is the digital workplace. However, the success of this innovative working system depends on the employees' intention to adopt the digital workplace. While the literature has already considered the design and implementation of the digital workplace intensively, more knowledge is needed on how companies can accelerate the adaptation process once the digital workplace has been introduced. Drawing on the diffusion of innovation theory, this chapter aims to identify the key factors influencing the intention to adopt the digital workplace on the individual, corporate and social levels. To this end, a cross-sector empirical analysis with  $N = 351$  knowledge workers is conducted. The results show that individual and corporate factors influence the intention to adopt the digital workplace. Theoretically, the chapter contributes to innovation and workplace research. The practical implications offer insights for the management of companies undergoing a digital transformation to promote their employees despite working spatially flexible and compensate for any possible reduction of the physical workplace.

---

<sup>8</sup> This is an Author Accepted Manuscript version of the chapter Voll, K.; Bachtal, Y.; Pfnür, Employees' intention to adopt the digital workplace – the role of companies in promoting the digital transformation, edited by Orel, M.; Černe, M. & Wong, S. I., 2024, Springer Nature Cham, Switzerland reproduced with permission of Springer Nature Cham, Switzerland.

## 5.1 Introduction

The COVID-19 pandemic has accelerated the transformation of the working world by providing an impetus to expand company digitalisation (Schwarz Müller et al., 2018; Savić, 2020; Subramaniam et al., 2021). At the same time, further workplaces besides the office, such as work-from-home (Pfnür et al., 2023), are becoming valid alternatives. Since the pandemic, employees have been using their physical workplaces more consciously and have been demanding greater workplace flexibility (Gauger et al., 2022b). This new spatial distribution of the workforce leads to lower office occupancy and forces corporates to reorganize their workspaces in order to maintain space efficiency (Pfnür et al., 2021a). Currently, many companies respond to office vacancy by reducing office space. In addition, further challenges arise due to a workforce distributed across multiple workplaces; i.e. collaboration, creative and innovative processes, leadership, employer branding and informal communication must be executed differently (Pfnür et al., 2023). It is of great relevance for companies to ensure that despite distributed work outside the office they do not suffer any loss of productivity, team dynamics or corporate loyalty among their employees (Hirsch, 2021; Konovalova et al., 2022). In order to meet the challenges of multi-locational work, corporates are supplementing their physical space with digital components. These changes have the purpose of exploiting the potential of hybrid work and impacting individual employees as well as teams and strategic business units (Colbert et al., 2016; Kaarst-Brown et al., 2018). *Figure 13* shows the connection between the physical and digital workplace components.

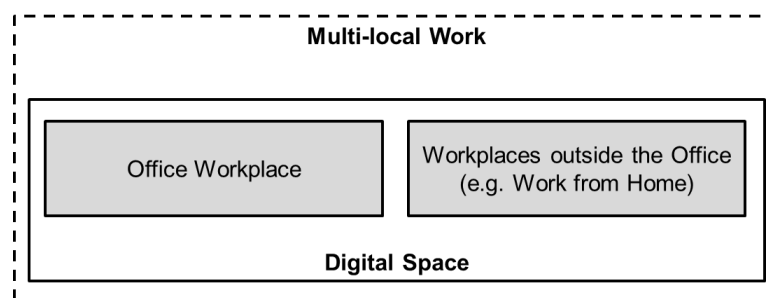


Figure 13: Coherence of physical and digital workplaces

Digital workplaces are innovative technology-supported working systems that enable employees to access company resources and work flexibly both time-wise and space-wise (Mičić et al., 2022). These digital technologies are used to support knowledge work when employees work from anywhere and at any time (Subramaniam et al., 2021). The design of digital workplace environments has been discussed in different strands of literature (Köffer/Urbach, 2016). A significant amount of research on relevant corporate factors to the transformation and implementation process of digital workplaces exists (Günther, 2017).

---

Several studies prove the relevance of the digital workplace as an organisational resource for optimising employee productivity (Köffer, 2015; Attaran et al., 2019), increasing efficiency in collaboration and knowledge exchange (Kissmer et al., 2018b; Mičić et al., 2022), simplifying the working life and as a management tool to achieve digital innovation (Dery et al., 2017; Hamburg, 2020). However, a fully digital workplace as a complete substitute for physical office space was not to be expected until now (Attaran et al., 2019). Complex and currently insufficiently deciphered design challenges arise in the utilisation phase (Hardwig/Weißmann, 2021). Many organisations lack knowledge and seem to be unprepared for the actual use of the digital workplace (Attaran et al., 2019). The potential of digital workplaces and their contribution to business success can only be achieved if they are adopted by the employees of a company (Greeven/Williams, 2017; Hardwig/Weißmann, 2021). According to the technology adoption life cycle, an innovation diffuses in stages (Rogers, 1995). To unfold an innovation's potential, a significant number of users must work with the digital workplace. Following implementation, the success of the digital workplace innovation strongly depends on the employees and their adaptability (Bouée, 2015; Selimović et al., 2021). Therefore, companies are confronted with the challenge of motivating enough of their employees to adopt the digital workplace into their daily working routine.

Literature on employees' intentions towards digital transformation is scarce and, thus, knowledge about the adoption motivations of employees is limited (Selimović et al., 2021). Corporates are keen to know how they can persuade their employees to change practices and adopt the newly implemented digital workplace (Hamburg, 2020) after implementation is executed. Quantitative research is needed to analyse the perceptions of larger samples of employees who have access to the digital workplace (Haddud/McAllen, 2018). The increasing number of companies implementing digital workplaces also requires further research to explain the technology adoption (Hardwig/Weißmann, 2021; Köffer, 2015).

This chapter addresses this research gap by uncovering the key factors influencing the intention to adopt the digital workplace through novel empirical evidence. The ideas of this chapter were originally presented at the 29th Annual European Real Estate Society Conference (Voll et al., 2023a). The analysed sample consists of 351 German knowledge workers. Factor and regression analyses are used to examine the employees' intention to adopt the digital workplace component. The following research questions are addressed: (1) Which factors determine an employee's intention to adopt the digital workplace and (2) how can corporates influence those factors?

---

The results add to the literature of digital workplace environments and innovation-diffusion research by indicating how factors on the individual, corporate and social levels influence the intention to adopt the digital workplace. The results are of relevance for practitioners. They enable corporates to gain knowledge about the digital workplaces as a complement for the physical workplaces and as compensation for reduced office space. Furthermore, practitioners can learn how to support employees when implementing the digital workplace and how to improve spatially distributed work.

## **5.2 Theoretical Background**

The overload of information, the accelerating changes in the way of working and a diverse workforce influence the establishment of digital working systems (Attaran et al., 2019). Digital workplace transformation is summarised as “a phenomenon of new technologies causing significant changes to a variety of work-related aspects: changes to how employees carry out tasks and processes, as well as changes to their social relations within the organizations, and subsequently to their overall workplace experience” (Meske/Junglas, 2021, p. 1120). So-called “digital workplaces” can be a unifying component of hybrid work. In information technology research, there are various definitions of the term “digital workplace”. In their systematic literature review, Mičić et al. (2022) define the digital workplace as a technology-supported working system. It affects the physical workspace, the technology and the people. Several thematic categories for characteristics of the digital workplace are identified, e.g. the technology platform, organisational strategy and design, people and work (Williams/Schubert, 2018). Furthermore, digital workplaces can be described as virtual work environments and included in the workplace strategy, enabling employees to access company resources and communicate and work together whilst simultaneously being temporally and spatially flexible through the use of digital tools (Schmidt et al., 2018). By using a variety of work systems, collaboration platforms create a digital infrastructure for a company’s employees whereby business partners or customers can be integrated (Hardwig/Weißmann, 2021). In this chapter, the term “digital workplace” is to be understood as combining all three of the following purposes: communicating, working together with colleagues in paperless documents and storing data and documents in a centralised manner.

The digital transformation of workplace strategy through the introduction of a digital workplace requires more than just its design and implementation (Selimović et al., 2021). Individuals and organisations are affected by workplace complementation (Hashim et al., 2023a; Hashim et al., 2023b) and the new practice of using the digital workplace is perceived as an innovation by employees (Seyed Esfahani/Reynolds, 2021). In the context of

---

technology management, the spread of a new technology in a social system is referred to as “diffusion” and is related to the adoption of innovation (Bullinger, 1994; Schuh et al., 2011). This is the foundation for the close connection between diffusion theory and adoption theory (Gerpott, 2005; Strebler, 2007). In the information systems discipline, user adoption is a broad research field (Kissmer et al., 2018b). Köffer and Urbach (2016) postulate that the multitude of technical possibilities in the expansion of the workplace strategy means that the employee is becoming the focus of attention. Intention to adopt can be an indicator of the effectiveness of behaviour change. Thus, the introduction of a digital workplace in a company’s workplace strategy and the adoption of the innovation by the user offer an exciting case for the Diffusion of Innovation Theory. According to this theory, there is a point at which the majority of a considered group follows a trend and allows it to be understood as an innovation (Rogers, 1995). It is striking that the adoption decision of an individual’s innovation relies on the decision of other members of the social group. The belief that an innovation improves people’s utility encourages its adoption. According to Rogers (1995), five main elements influence the spread of a new idea: the innovation itself, adopters, communication channels, time and a social system. With regard to the digital workplace newly integrated into the workplace strategy, it is important to identify the influences at individual, corporate and social level that motivate users to adopt the digital workplace, achieve diffusion and, hence, make the innovation successful.

### **5.3 Hypotheses Development**

Digital workplace research recognises that simply providing software solutions does not lead to efficient use. Transforming a workplace by implementing a digital component has to include the employees, the organisation and their environment (Selimović et al., 2021). This is in line with research on collaboration platforms, stating that these platforms must meet several requirements on the social, organisational, spatial and technical levels (Greeven/Williams, 2017). The user plays a key role in the adoption process (Rogers, 1995). According to the literature, employee involvement in the company and the regular use of technology are key behaviours for digital workplace adoption. Their work-related needs have proven to be a major influencing factor for technology innovation (Hardwig/Weißmann, 2021). Therefore, the framework for the determinants on the intention to adopt the digital workplace includes items on three determinant levels: individual, corporate and social.

#### *The Individual Level*

The tendency of consumers to adopt a new product early instead of sticking to old consumption patterns is known as “consumer innovativeness” (Heidenreich et al., 2017; Arts

---

et al., 2011; Bartels/Reinders, 2011; Steenkamp et al., 1999). In research on the diffusion of innovation, consumer innovativeness is fundamental to innovative behaviour (Röhrich, 2004; Manning et al., 1995). Several studies provide evidence for the significant positive relationship between consumer innovativeness and the intention to adopt new products (Arts et al., 2011; Bartels/Reinders, 2011; Cowart et al., 2008; Li et al., 2015). The validity of the relationship is shown across a variety of product domains including technological innovations (Ratten, 2014; Hirunyawipada/Paswan, 2006; Nguyen et al., 2014). However, empirical evidence for this relationship has been lacking in the context of digital workplace adoption until now. Thus, it is hypothesised that:

***H1:** Consumer innovativeness is positively related to the intention to adopt the digital workplace.*

In addition to consumers' innovativeness, their technology commitment is relevant to the intention to adopt the technological innovation (Wang/Datta, 2006; Wang/Datta, 2009). Technology commitment, with its three facets technology acceptance, technology competence beliefs and technology control beliefs, is developed to predict the successful use of new technologies (Neyer et al., 2016). In qualitative research, competence in dealing with digital technologies has been attributed as a prerequisite for successful work with them (Weinkauff/Woywode, 2004). Hardwig and Weißmann (2021) also recognised that the willingness to use collaboration platforms is dependent on respondents recognising the platform's effectiveness when fulfilling their tasks. However, this assessment is subject to a certain willingness to use technology in general. Technical tools only facilitate work if employees have previous experience in that field. Thus, the following hypothesis is proposed:

***H2:** Technology commitment is positively related to the intention to adopt the digital workplace*

#### *The Corporate Level*

As initiators of the digital workplace, corporates depend on their employees actively using the digital complement of their workplace strategy. A range of measures can be taken to pursue their goal. Dery et al. (2017) identify six required levers to design a digital workplace. Using a dual focus consisting of employee connectedness and responsive leadership, the authors propose the following to address those two dimensions: space, systems, social, sustaining leadership, systematic learning and symbols. The analysis in this chapter goes beyond a consideration of the design and implementation process and examines the utilisation phase of the digital workplace. Therefore, additional literature on the use of digital transformation, hybrid environments and virtual work and collaboration (platforms), which already address and examine the use, is also included in order to derive a more

---

complete set of corporate-related aspects that influence the intention to adopt the digital workplace.

Wang and Parker (2023) determine strategies to support virtual work and identify solutions for technical challenges. According to them, to achieve technically successful work, the technical features must meet the employees' needs and facilitate social interactions. Thus, the technical infrastructure for the digital workplace is a necessity (Dery et al., 2017). Good and well-developed infrastructure supports collaboration anywhere at any time (Dery/MacCormick, 2012). The responsibility to provide infrastructure for employees lies with the companies and managers (Hardwig/Weißmann, 2021). Thus, the following hypothesis is formulated:

***H3: Technical infrastructure is positively related to the intention to adopt the digital workplace.***

The digital workplace must be considered at the level of workspace planning if it is to be integrated into the workplace concept. As work in the digital workplace happens in physical environments, creating inspiring and innovation-promoting physical spaces is also part of the digital workplace (Dery et al., 2017; Marsh et al., 2022). The importance of the digital workplace innovation in the workplace strategy is highlighted by creating symbols and brands (Dery et al., 2017). The development of shared social norms helps regulate cooperation and communication in virtual work environments (Moser/Axtell, 2013). Thus, the company should promote new behavioural norms for the digital workplace to promote collaboration. The digital transformation of the workplace goes beyond simply accepting the technology and means enabling the development of employees' skills (Meske/Junglas, 2020). Weinkauff and Woywode (2004) identify that competent handling of technical media is a prerequisite for successful virtual collaboration. Continuous learning opportunities can help build these competencies (Dery et al., 2017; Hamburg, 2020) and enhance employees' capabilities (Selimović et al., 2021). Support that suits the technical solution is necessary for successful virtual work and is vital in implementing a digital workplace strategy (Wang/Parker, 2023; Hamburg, 2020). For example, professional training for the digital workplace can be offered to the employees to learn more about the new environment (Attaran et al., 2019; Sandström et al., 2022). Meanwhile, the corporate can improve the digital workplace through the collection and analysis of information from employees' helpdesk requests (Dery et al., 2017). The appreciation of feedback by employees should also be reflected in the responsive behaviour of management. Thus, it is hypothesised that:

***H4: Corporate governance is positively related to the intention to adopt the digital workplace.***

---

In the context of designing collaborative technologies, iterative and agile processing is recommended due to the complexity (Hardwig/Weißmann, 2021). This includes an intensive exchange between the user groups, i.e. management and users, and the developers. For the purpose of developing the digital workplace effectively, on the one side, information from employees through IT helpdesk requests can be collected on an ongoing basis (Dery et al., 2017). On the other side, the management must be responsive to feedback on employees' experiences with the digital workplace (El Sawy et al., 2016). Managing the digital workplace use requires stakeholder engagement from both management and end-users (Sandström et al., 2022). New behavioural norms for the digital workplace should be promoted (Dery et al., 2017). Opportunities for informal social interactions and collaboration, and the improved flexibility of digital work policies, support virtual work (Wang/Parker, 2023). These opportunities for coming together can be promoted through innovation hubs or inspiring spaces (Dery et al., 2017). Successful virtual teamwork requires a sufficient amount of energy by the company or management to activate the employees (Weinkauff/Woywode, 2004). Without setting incentives, the success of virtual collaboration is at risk. Affective organisational commitment is known to be a mediator for the relationship between subjective norm and intention of employees to adopt new technologies (Bae et al., 2016). Accordingly, a company's management should demonstrate openness to the digital workplace and set an example for its use. Clearly articulated communication about the digital workplace and the vision for the workplace strategy is recommended (Dery et al., 2017). Thus, the following hypothesis is proposed:

*H5: Corporate communication is positively related to the intention to adopt the digital workplace.*

Agile change management is considered a success factor in digital transformation projects (Heidt et al., 2020). Through participation and communication in the context of change management, companies manage to overcome the challenges of their employees in times of dynamic change. A participatory process is also known to be a critical success factor in the process from design to use of hybrid learning environments (Sandström et al., 2022). The use of a digital workplace results in a change in organisational and work culture (Colbert et al., 2016; Schwarzmüller et al., 2018; Selimović et al., 2021). To successfully manage this change and enhance employees' intention to adopt the digital workplace, companies must involve and inform their employees (Zwick, 2003). A change management plan is necessary to align the new digital workplace strategy to the culture of the organisation (Hamburg, 2020). Concluding, a final hypothesis on the corporate level is proposed:

*H6: Change management is positively related to the intention to adopt the digital workplace.*



### The Social Level

Obstacles of digitalisation represent an external influence on the intention to adopt the digital workplace that neither individuals nor companies can influence directly. However, a good internet connection is a basic requirement for working digitally. Compared with the rest of Europe, Germany has a high deficit in terms of fibre coverage (European Commission, 2023). In their gigabit strategy, the German government plans to upgrade significantly by 2030 to improve living and working on the move (The Federal Government, 2023). In order to find out whether a lack of public digital infrastructure (e.g., fibre optic expansion) influences the intention to adopt the digital workplace, the following hypothesis is tested:

**H7:** *Obstacles of digitalisation are negatively related to the intention to adopt the digital workplace.*

Figure 14 summarises the seven hypotheses and presents the research model.

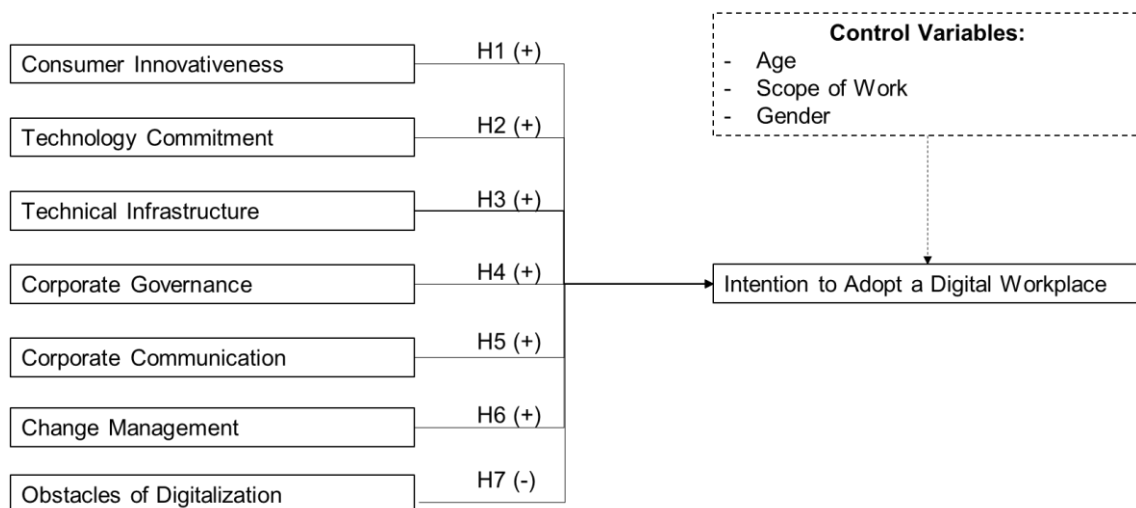


Figure 14: Research Model

## 5.4 Methodology

### Survey Design and Sample Description

For the cross-sectional research design, primary data are gathered to answer the research questions. The aim is to evaluate digital workplace adoption in a target population of German employees. In September and October 2022, an online survey of 1,000 knowledge workers was launched for 19 days. An upstream pretest was performed to verify the relevance and comprehensibility of the items extracted from the theoretical literature review. The questionnaire was programmed in SoSciSurvey, a German provider of online surveys, which assures compliance with the German data protection regulations (SoSciSurvey, 2023). The sample was generated via the online sampling platform Clickworker.de. “Clickworker” is becoming popular in research, similar to Mechanical Turk (MTurk) in the United States (Follmer et al., 2017). It generates fast and reliable responses with quality comparable to

responses obtained from more traditional sampling methods (Lutz, 2016). According to its website, Clickworker.de is a crowd-based community of German-speaking clickworkers with around 540,000 members (Clickworker, 2023). This community offers the advantage of a high availability of suitable survey participants. They are pre-qualified by registering and qualifying with Clickworker.de. In addition, integrated control questions as well as checks for bots and automated responses are used to ensure the best possible quality. Clickworker.de has proven to be a valuable empirical research in recent years (Müller/Albrecht, 2019; Gottschewski et al., 2022; Hansen et al., 2023).

IBM SPSS Statistics was used for data cleaning (Sarstedt/Mooi, 2014). Surveys completed in a disproportionate length of time or that contained missing values, as well as those from participants who did not have a digital workplace available in their company, were eliminated. A sample size of  $N = 351$  remained.

The goal is to map a representative sample of office employees in Germany. However, the 31–40 years age group is relatively overrepresented in the sample while respondents aged 51–67 years are under-represented (Destatis, 2023a). The proportion of men (61.8%) is slightly higher than the comparable proportion of men (53.2%) in the German workforce (Destatis, 2023a). Two-thirds of the respondents work full-time and one-third works part-time. On average, the employees work 38 hours per week. By comparison, the Federal Statistical Office gives an average weekly working time of 34.7 hours for all employed people (Destatis, 2022). *Table 18* reports the employees' descriptive characteristics.

Table 18: Sample Descriptive Statistics

	<i>N</i>	<i>Percentage</i>
<b>Age</b>		
20 – 30 years	83	23.65 %
31 – 40 years	143	40.74 %
41 – 50 years	80	22.79 %
51 – 60 years	37	10.54 %
61 – 67 years	8	2.28 %
<b>Gender</b>		
Female	132	37.60 %
Male	217	61.80 %
Other	2	0.60 %
<b>Scope of work</b>		
Full-time (40 hours per week and more)	211	66.50 %
Part-time (14 – 39 hours)	140	33.50 %
<b>Separate workplace at home</b>		
Yes	215	61.30 %
No	136	38.70 %

---

### *Measures and Analysis*

The respondents answered closed questions on a seven-point Likert scale (anchored by 1 = strongly disagree and 7 = strongly agree). This scale has a higher sensitivity, reliability and validity than a five-point Likert scale (Cummins/Gullone, 2000; Preston/Colman, 2000). The question used to select participants with access to a digital workplace is: “Does the company you currently work for provide a digital workplace? This should combine all three of the following purposes: communicating, working together with colleagues in paperless documents simultaneously and storing data and documents in a centralised manner”. Items are derived from existing survey instruments whenever possible to reach a higher explanatory value due to their pretest. Additional items relevant for this research are extracted and extended from literature and applied to the digital workplace context. All items included can be found in the Appendix B.

### *Variables Construction and Construct Validation*

*Dependent Variable.* The dependent variable, intention to adopt the digital workplace, is measured using a four-item scale. The scale was adopted from Heidenreich et al. (2017) who tested the measure based on several research studies (Plouffe et al., 2001; Oliver/Rosen, 2010; Putrevu/Lord, 1994). It refers to the intent to use the digital workplace in the near future. Cronbach’s Alpha reaches 0.925 ( $\geq 0.8$ ) (Cortina, 1993).

*Independent Variables.* The seven factors identified from literature influencing the intention to adopt the digital workplace are consumer innovativeness, technology commitment, technical infrastructure, corporate governance, corporate communication, change management and obstacles to digitalisation. The framework for the determinants includes aspects on three levels: individual, corporate and social. On the individual level, consumer innovativeness (Cronbach’s Alpha = 0.764), tested by Heidenreich et al. (2017), and technology commitment (Cronbach’s Alpha = 0.856), developed and validated by Neyer et al. (2016), are included. The four constructs on the corporate level that have not yet been established are validated with a principal component analysis (PCA). The PCA is performed for data reduction and construct validation (Backhaus et al., 2016). Several possibly correlated variables extracted from the literature are transformed into a smaller number of uncorrelated variables, the principal components. *Table 19* presents the PCA results and shows the items included in the analysis. Four factors of the corporate level are identified from the PCA. The analysis should provide reliable factors. The Kaiser–Meyer–Olkin measure of 0.922 exceeds the threshold value of 0.6 (Tabachnick/Fidell, 2014). The Bartlett’s test of sphericity shows significance ( $p < 0.001$ ). The four components explain 70.05% of the

variance. On the social level, obstacles of digitalisation are measured by a single item: “An obstacle of digitalisation is a lack of public digital infrastructure (e.g., fibre-optic expansion)”.

Table 19: Principal Component Analysis

Items	Components			
	1	2	3	4
Corporate governance (Cronbach's Alpha=0.904; CR=0.889; AVE=0.474)				
Continuous development	<b>0.660</b>	0.373	0.073	0.214
Standards of conduct	<b>0.668</b>	0.344	0.055	0.200
Workplace concept	<b>0.695</b>	0.314	0.241	0.113
Workplace strategy	<b>0.769</b>	0.106	0.148	0.109
Trainings	<b>0.740</b>	0.177	0.131	0.092
Continuous learning opportunities	<b>0.741</b>	0.151	0.105	0.150
Innovation center	<b>0.712</b>	0.031	0.063	0.194
Supporting spaces	<b>0.671</b>	0.091	0.168	0.219
Culture of feedback	<b>0.505</b>	0.442	0.162	0.311
Corporate communication (Cronbach's Alpha=0.892; CR=0.851; AVE=0.537)				
Management role models	0.231	<b>0.788</b>	0.194	0.145
Recommendation for use	0.144	<b>0.793</b>	0.348	0.099
Positive representation in corporate internal channels	0.222	<b>0.763</b>	0.339	0.163
Positive representation in external corporate communication	0.229	<b>0.757</b>	0.319	0.151
Supportive management	0.500	<b>0.529</b>	0.072	0.319
Technical infrastructure (Cronbach's Alpha=0.921; CR=0.877; AVE=0.704)				
Necessary technical infrastructure	0.178	0.262	<b>0.867</b>	0.078
Good technical infrastructure	0.190	0.310	<b>0.841</b>	0.165
Access to well-developed infrastructure	0.175	0.374	<b>0.807</b>	0.163
Change management (Cronbach's Alpha=0.856; CR=0.836; AVE=0.633)				
Employee inclusion in planning and implementation	0.284	0.119	0.057	<b>0.856</b>
Consideration of employee needs	0.238	0.163	0.131	<b>0.855</b>
Flow of information	0.292	0.327	0.293	<b>0.661</b>

Notes: Extraction method: Principal Component Analysis (PCA). Rotation with a Varimax rotation. CR= Composite Reliability, AVE= Average Variance Extracted

*Control Variables.* Three key socio demographic factors are included in the model: age, gender and scope of work. Literature shows differences in technology adoption contexts for different ages and gender (Schroeder et al., 2023; Altawallbeh et al., 2015; Goswami/Dutta, 2016; Venkatesh et al., 2000; Venkatesh et al., 2003). It is thus examined whether younger employees or men show higher intentions to adopt a digital workplace. A significant influence of consumption/usage frequency on intention to adopt is reported for different products and services (Kaplan et al., 2007; Chen, 2013; Meske et al., 2016). Therefore, the scope of work (as a measure for the weekly working time in hours) is included as an additional control variable in the model. The aim is to check whether a higher weekly working time, which could result in a greater opportunity for use, makes a difference to the intention to adopt. Controlling for the covariates provides a stronger test of the hypotheses. Age is measured in years. Gender is determined based on three groups: male, female and other. Scope of work is measured in hours of work per week.

## 5.5 Results

Table 20 presents the ordinary least squares regression analysis to test the relation between the derived factors with intention to adopt the digital workplace. Starting with the control variables in model 1 and integrating all seven factors in the full model, 46.0% (adjusted R<sup>2</sup> = 0.460) of variance in intention to adopt the digital workplace is explained.

Table 20: Regression Results with Intention to Adopt the Digital Workplace as a Dependent Variable

	Model 1	Full Model
<b>Independent Variables</b>		
Consumer innovativeness		-0.134**
Technology commitment		0.457***
Technical infrastructure		0.276***
Corporate governance		-0.205***
Corporate communication		0.248***
Change management		0.143***
Obstacles of Digitalization		0.055
<b>Control Variables</b>		
Age	0.008	-0.001
Gender	0.001	-0.048
Scope of Work (dummy)	-0.137	0.024
Constant	5.988***	1.267***
Adjusted R <sup>2</sup>	0.000	0.460
N	351	351

F-value	0.947	30.840***
---------	-------	-----------

Notes: \* significant on a 0.05 level, \*\* significant on a 0.01 level, \*\*\* significant on a 0.001 level

The results show that the control variables age, gender, and scope of work are not significant predictors of the intention to adopt the digital workplace. However, the factors on the individual and corporate level, i.e., consumer innovativeness (H1,  $B = -0.134$ ,  $p < 0.01$ ), technology commitment (H2,  $B = 0.457$ ,  $p < 0.001$ ), technical infrastructure (H3,  $B = 0.276$ ,  $p < 0.001$ ), corporate governance (H4,  $B = -0.205$ ,  $p < 0.001$ ), corporate communication (H5,  $B = 0.248$ ,  $p < 0.001$ ) and change management (H6,  $B = 0.143$ ,  $p < 0.001$ ) are all significant predictors of the intention to adopt the digital workplace. Therefore, Hypotheses 2, 3, 5 and 6 are supported by the data in the context of this study. Surprisingly, consumer innovativeness and corporate governance influence the intention to adopt the digital workplace negatively with a significance estimate at the 5% level. Thus, given the data and context of the study, relationships are detected but Hypotheses 1 and 4 are not supported. The strongest influence on the intention to adopt the digital workplace is technology commitment. Obstacles of digitalisation, such as a lack of public digital infrastructure (e.g., fibre optic expansion) do not affect the intention to adopt the digital workplace significantly in this study. Hence, Hypothesis 7 is not supported.

## 5.6 Discussion and Limitations

This chapter's results provide insights into employees' intention to adopt the digital workplace after its implementation. While there are already numerous studies on the factors involved in the successful introduction of digitalisation in the workplace, the usage phase has not been examined so far. Thus, the study addresses the two research questions: (1) Which factors determine employees' intention to adopt the digital workplace and (2) how can corporates influence those? The results reveal technology commitment to be the most important influence for digital workplace adoption on an individual, corporate and social level.<sup>9</sup> This is in line with previous literature dealing with technology adoption and shows that irrespective of the digital tool under consideration, technology commitment is key to adoption intentions (Wang/Datta, 2009).

The significance of the factor "technical infrastructure" emphasises the relevance of well-developed technology and successful implementation of the digital workplace in order to be adopted by the employees. Literature shows that the technology provided by a company must be a digital toolbox for their employees' specific needs regarding communication,

<sup>9</sup> To compare the factors' influences, standardised regression coefficients are regarded: technology commitment  $\beta = 0.359$ ; technical infrastructure  $\beta = 0.282$ ; corporate communication  $\beta = 0.251$ ; corporate governance  $\beta = -0.218$ ; change management  $\beta = 0.198$  and consumer innovativeness  $\beta = -0.125$ .

---

collaboration and access to documents (Hamburg, 2020). A digital workplace strategy, which also takes the company's culture into account, is proposed as a useful element for determining requirements. In an effort to contribute positively to the achievement of strategic business objectives, the technical infrastructure of the technologies must function effectively (Haddud/McAllen, 2018).

The factor "corporate communication" also has a significant effect on the willingness to embrace a digital workplace. This indicates the importance of promoting the digital workplace directly as part of the workplace strategy. Employees can be motivated to work with the digital component if they see others within the company using it and reporting positively about it. In addition to communicating on a higher level via official company channels, managers can encourage their team to use it on a personal level (Hamburg, 2020). The high relevance of open exchange in the diffusion of the digital workplace innovation is in line with previous research (Sandström et al., 2022; Bae et al., 2016; Dery et al., 2017).

By contrast, "corporate governance" has a significant negative influence on the intention to adopt the digital workplace. On the one hand, this could be caused by employees being technologically overburdened. Additionally, technology overload at the workplace can be exacerbated by social overload (Rasool et al., 2022). Although effective governance is a critical component of successful digital work (Haddud/McAllen, 2018), the results suggest that an excess could lead to a negative effect. Contrary to previous research findings concluding that guiding principles are important as a component of workplace governance (Hamburg, 2020), the responsibility could weigh too heavily on users due to a large number of extensive trainings. Moreover, once a negative mood condition has developed among employees, it is more difficult to achieve training success (Venkatesh/Speier, 1999). On the other hand, an excess of corporate governance can have a negative effect on the intention to adopt the digital workplace if the leadership proceedings are not necessarily trust-based (Willermark/Island, 2023). This assumption is in line with Hashim et al. (2023a) who find self-autonomy to be important for digital workplace adoption. Learning new leadership practices is necessary during the transition towards a digital workplace (Vallo Hult/Byström, 2021). It is possible that this process has not yet been sufficiently completed in the companies of the employees surveyed in this sample during the evaluated use phase. To overcome old learning paradigms, organisations need to understand what employees need in order to thrive in an environment where everyone is constantly producing and consuming content (Noonan et al., 2017). Learning curation, learning personalisation and adapted learning modalities could help companies improve their learning systems (Klašnja-Milićević et al., 2011). Another explanation for the negative impact of management on the intention to adopt

---

the digital workplace in this study could be due to the design of the physical work environment. Contrary to existing assumptions in the literature that flexible and activity-oriented spaces are conducive to the digital workplace (Dery et al., 2017; Marsh et al., 2022), an overly open design of the space could also be a hindrance as a lack of quiet working areas makes concentrated individual work with the digital workplace more difficult.

The results reveal a positive and significant influence of “change management” on the intention to adopt the digital workplace. Previous research shows that change management is already considered during the implementation of the digital workplace, but that it needs to be carried through to the utilisation phase (Zwick, 2003). The expansion and shift of work from the physical to the digital space is triggering cultural changes. Corporate culture determines employee connection, communication and collaboration in digital workplaces, making change management necessary (Hamburg, 2020). This is in accordance with existing research that reports employees’ demands for participation in building the new environment and providing feedback (Meske/Junglas, 2020).

Although it was thought to be positive in innovation diffusion and adoption settings, the impact of “consumer innovativeness” on the intention to adopt the digital workplace is surprisingly negative, (Röhrich, 2004; Manning et al., 1995; Arts et al., 2011; Bartels/Reinders, 2011; Cowart et al., 2008; Li et al., 2015). Research on new product adoption detected only a weak relationship between consumer innovativeness and the adoption, thereby challenging the classic assumption (Seyed Esfahani/Reynolds, 2021). This surprising result could also be related to the fact that consumer innovativeness is often examined in the context of private consumption decisions or technology acceptance by individual professionals (Yi et al., 2006). In this case, however, the focus is on the use of innovation in a professional context and influences collaboration with other employees. Another explanation might be embedded in an over representation of early adopters in the sample. This group differs from the majority of people in their speed of adopting new innovations (Reinhardt/Gurtner, 2015). However, high consumer innovativeness is not only understood to reflect the tendency to adapt new innovations more quickly, but also an increased frequency of use (Midgley/Dowling, 1978). Thus, higher levels of consumer innovativeness would already imply frequent use of the digital workplace. If one assumes that frequent use is already almost equal to the integration of the digital workplace in everyday working life, then the readiness to perform the behaviour to use the digital workplace could already be exceeded. This possibly results into a turn to the opposite effect because those employees already want to try another innovative digital tool while the corporate still sticks to the digital workplace. Another explanatory approach goes back to the



---

consumer innovation model by Midgley and Dowling (1978). The authors point out a series of intervening variables, i. e. interest in the product category, communicated experience and situational effects, which may have a relation to the innate innovativeness of individuals and to other diffusion of an innovation phenomena. Thus, due to those influences, missing intrinsic motivation or enjoyment in employee's innovative behaviour might be existing but the behavioural intentions remain absent (Venkatesh/Speier, 1999).

Previous research results showing a significant influence of demographic factors like age or gender on users' activity within digital tools cannot be confirmed (Meske et al., 2016), nor can findings that older employees are often not enthusiastic about digital transformation be confirmed for the intention to adopt the digital workplace (Hamburg, 2020). Thus, this chapter's result is in line with Kissmer et al. (2018a) and finds no evidence for demographics such as age and gender having an impact on knowledge workers' expectations towards a digital workplace. Perhaps this result is due to the fact that digital technologies enable employees to work flexibly. According to Hamburg (2020), flexible working has a positive effect on employee engagement. With higher engagement, the willingness to change increases regardless of demographics.

The study has some limitations that need to be mentioned. First, the average age of the sample is 38 years. This is below the average age of employees in Germany. Although the results of this study do not identify any difference depending on age, the findings could become less representative if the German workforce continues to age. Second, the survey method via Clickworker involves the potential risk that the participants in the survey have a higher affinity for technology than average German comparison groups. Thus, technology commitment could have been overrated. Methodologically, more control variables might reveal confounding influences. Moreover, the inclusion of further aspects, such as social factors, could help identify significant influences. Finally, this study does not address all of Rogers' (1995) five elements influencing the spread of an innovation. The innovation itself is the digital workplace. The adopters are covered by including influences on the individual level, whereas communication channels are included in the factors on the corporate level. The social system is represented by the factors on the social level. Furthermore, this research is conducted as cross-sectional study and data are not available over time. This makes the differentiation between cause and outcome more difficult.

## **5.7 Conclusion and Further Research**

In the current working world, the importance of the digital workplace component in corporate workplace strategy is increasingly recognised due to the spatial distribution of the

---

workforce. The focus on solutions for companies undergoing a digital transformation is particularly important when compensating for the loss of physical workplaces through space reduction. The analysis of the factors influencing employees' intention to adopt the digital workplace provides a valuable addition to literature. The results illustrate the influence of individual and corporate factors. Technology commitment primarily supports employees' willingness to use the technology, whereas a higher level of consumer innovativeness has an inhibiting effect. Companies can have a positive influence by providing a suitable technical infrastructure through communication on different levels, positive image of the digital workplace and change management measures. Organisations, however, should exercise caution when it comes to governance. Frequent adaptations of the digital workplace, a high level of training requirements and a high number of complementary physical spaces seem to have a negative influence on the intention to adopt the digital workplace. A more dynamic workplace policy for the digital workplace could be a possible solution (Chatterjee et al., 2023). To further enhance digital workplace adoption, Hamburg (2020) suggests using an interdisciplinary team both inside and outside the organisation, and involving a workplace consultancy, if necessary, when changing a workplace strategy. This can help companies optimise their influence on the intention to adopt.

The practical contribution of this chapter is to inform companies about how to best promote adoption during the utilisation phase of the digital workplace. As Dery et al. (2017) note, the establishment of digital workplaces in individual companies has been considered, but the focus on employees' intentions to adopt in general is missing, hence, a cross-company sample has been analysed. The results show that companies can influence the intention to adopt the digital workplace in a variety of ways. On the one hand, they can improve the factors at the corporate level that have a positive effect (technical infrastructure, corporate communication, change management). On the other hand, they can indirectly influence the individual (technology commitment) factor. This is in line with the literature, e.g., Chatterjee et al. (2023) who point out that the digital transformation of a workplace is influenced positively by organisations' dynamic capabilities. The chapter theoretically contributes to digital workplace and technology adoption literature. The relevance of the interplay between the individual employee and the organisation in workplace research is demonstrated, as technology commitment and technology infrastructure factors significantly determine the intention to adopt the digital workplace. Thus, the digital workplace literature must integrate not only corporate factors but also individual factors, which are more common in the field of innovation theory and adoption research.

---

The findings of this chapter and its limitations present several interesting opportunities for future research on digital workplace and innovation adoption. Further research could analyse the negative impact of consumer innovativeness in detail. It is also important to examine how the digital workplace, when adopted by employees, balances the disadvantages of hybrid work. For practitioners, it is relevant to know which specific measures in corporate communication are successful and how corporate governance can be structured to avoid exerting a negative influence on the intention to adopt the digital workplace. Adopted digital workplaces represent an evolution of the workspace strategy, complement the physical workplaces, compensate for office space reduction and support successful spatially distributed work.

---

---

## 6 Article 5: Flexible Workplace Management – A Dynamic Capabilities Perspective

---

Title: Flexible Workplace Management – A Dynamic Capabilities Perspective

Authors: Kyra Voll, Technical University of Darmstadt, Germany  
Andreas Pfnür, Technical University of Darmstadt, Germany

Submitted to: Schmalenbach Journal of Business Research

### Abstract:

The changing working world leads to a new role of office workspaces as knowledge workers are able to fulfill their tasks from multiple locations outside the main office. Since the COVID-19 pandemic, employees have increasingly demanded flexible workplace policies in their corporates. Due to a tight supply of labor, companies are trying to address the needs of their employees as they are the most important resource for the company's success. Even though real estate is a rigid resource, workplace management bears the potential to create workspaces conducive to success for a diverse workforce, executing a variety of work activities. Building on dynamic capabilities theory, this study identifies a process of how companies and their employees can maneuver through shifting demands toward flexibility in workplace management. This study proposes a unique approach to determine flexible workplace management by focusing on a case study including 754 knowledge workers in Germany. It is developed through the space allocation of a company for different work types by sensing, seizing, and transforming resources. To this end, a cluster analysis is performed to identify different types of workers characterized by different shares of work modes and different preferred workplaces: all-rounders, project workers, desk workers, communicators, thinkers, and hands-on. An important contribution is made to the literature of workplace management and dynamic capabilities by presenting how real estate resources can be managed to create future capabilities in dynamic environments. In addition, the demonstrated approach is of practical relevance to companies, as it can be easily applied to develop a flexible and people-centered workplace management for their organization.

### 6.1 Introduction

The corporate workspace has recently changed more than it has in decades due to the COVID-19 pandemic (Marzban et al., 2023). Increasing hybrid working through continued

---

work from home creates vacancies in office buildings and triggers a change in function of the operational workplace, i.e., the office (Carstensen, 2023). The importance of the office as a physical place where work and people are embedded locally is repeatedly emphasized in literature and corporate practice (Jurecic et al., 2018; Kohlert, 2021). Work environments can make a valuable contribution to corporate success by supporting people in their work in the best possible way through suitable work places (Armitage/Nassor Amar, 2021; Danivska/Appel-Meulenbroek, 2021). According to Appel-Meulenbroek et al. (2021), the degree of alignment between an individual and the workplace is critical to whether their interaction leads to positive outcomes for the individual (in the form of well-being) and for the organization as a whole (due to a positive outcome, i.e., productivity). However, due to hybrid working, a constant office space is frequently no longer required - neither in area size nor in design. Without action, companies risk losing corporate success as well as company and team culture, and increasing employee turnover (Pfnür et al., 2023). However, the high dynamic demands on real estate are, by definition, offset by immobility, i.e., the rigidity of this resource. In the context of transforming the world of work and the changing demand on offices, questions around the necessary degree of flexibility in workplace management and the relevance of space arise (Bal/Izak, 2021). The ability to flexibly adapt helps companies survive (Harris, 2015). Thus, companies are searching for multi-layered ways to adapt the office workplace as flexibly as possible.

To cope with the new situation and to be responsive to changing needs in office space, companies need to be strategically flexible and develop dynamic capabilities (DCs) through continuous realignment of their resources (Muneeb et al., 2023). Dynamic capabilities theory (DCT) is an often used lens in management research and also useful for responding to the need for higher flexibility for office space (Schilke et al., 2018; Pfnür et al., 2023). In the context of the workplace, the pandemic is an exciting and unprecedented example of a sudden change in the environment and the conditions under which companies and employees must maneuver. DCT, as a basis of the ability for agile corporate management, has already been described as beneficial in the context of the COVID-19 crisis (Teece, 2018; Janssen/van der Voort, 2020).

Despite the frequent practice of the theory, research on key resources over which companies have only partial control, such as their employees, has been lacking in DCT literature until now (Cabral/Winden, 2022). The explanation of concrete organizational adaptation processes through the concept of DCs is also described as incomplete (Güttel et al., 2012). Furthermore, even though there have been various studies that have examined the adaptability of office buildings and real estate assets that revealed the relationship between

---

property characteristics and office user preferences, there has been scarce literature on the clarification of how companies deal with their office real estate resources in dynamic situations to identify user needs. Although Remy and Van der Voordt (2013) call for new ideas to realize sustainable office space planning, such as redesign, research to date lacks approaches to achieve the necessary flexibility in workplace management efficiently and successfully. To provide the optimal amount and quality of space necessary, companies must understand which activities their employees perform in the office. In addition, future needs must be anticipated to be able to respond to potential changes in demand by making spatial adjustments. Of particular interest is the approach taken by companies in terms of determining the new requirements and responding to this new situation with regard to their workspaces.

By applying the DCT perspective, this study addresses the research gap by exploring how companies can react flexibly to changing office requirements in the hybrid working environment. In the center of the examination stands the research question: How can organizations increase company adaptability to the new business environment and improve employees' ability to work through their workplace management? The nature of this research is exploratory. First, DCT is applied to workplace management in the office space planning context and an adapted framework proposing DCT utilization for corporate real estate management (CREM) is created. Second, a single-case study approach is used to show the application of the framework (Dyer/Wilkins, 1991; Fiss, 2009; Yin, 2014). By analyzing the data of a large German company currently in the process of being transformed, the propositions made are compared to a real-life situation to evaluate the DCT extension and enhance the scientific usefulness (Yin, 2014; Ridder, 2017; Corley/Gioia, 2011).

The study provides contributions to literature and corporate practice. Empirically, it offers the analysis of a corporate's workplace management through the lens of DCT. Using the example of the pandemic as an external environmental influence, a theory extension is proposed, contributing to the three main process components of DC: sensing, seizing, and transforming. Practically, this study offers an initial empirical approach to a people-based office space planning procedure. Its application enables companies to manage workplaces flexibly and at the same time plan a suitable office space for different employee work types.

## **6.2 Theoretical Background**

### **6.2.1 Workplace Flexibility**

The turnover of companies with high knowledge content is influenced by the employees and their work success. The better the working opportunities for employees, which are also

expressed in the office premises, the higher the company's success (Pfnür et al., 2021; Pfnür et al., 2023). Companies and CREM are under high pressure to innovate in a changing working world because transformation processes and an indeterminate business environment require companies to be highly flexible in order to be responsive (Levit, 2018). In order to provide knowledge workers with suitable workspace, CREM is looking for new workplace management approaches to be able to react more flexibly to constantly new developments.

Workplace management is a frequently discussed topic in research on workplace strategies. Due to the lack of a consistent definition of "workplace management," this paper follows the international facility management association's proposal: "Workplace Management is the management of all resources needed to design & maintain appropriate, effective and economical workplace experiences that align to strategic business objectives and support people in doing their best work every day, wherever they are." (Jervis/Mawson 2014, p. 10). Since the late 19th century, office layouts and space planning have been at the center of attention in workplace management (Danivska/Appel-Meulenbroek, 2021). In addition, different research streams discuss flexibility concepts in relation to work. *Table 21* summarizes the different types of flexibility divided by workplace and real estate.

Table 21: Overview of flexibility types in the work context

	Workplace Flexibility				Real Estate Flexibility	
<i>Referring to</i>	Staff			Organization	Real Estate	
<i>Concerning</i>	Location	Contract	Time	Strategy	Ownership relations/ utilization costs	Physical layouts and functional opportunities
<i>Type</i>	Employee flexibility	Flexible work	Flexible work arrangements	Organizational flexibility	Flexible office space models	Flexible space concepts and workplace management

Workplace flexibility has many facets (Hill et al., 2008) and can be distinguished in four types (Bal/Izak, 2021). The first three types refer to staff flexibility regarding location, contract, and time. Employee flexibility refers to the adaptability of employees to changing working environments (Beltrán-Martín/Roca-Puig, 2013) while *flexible work* is defined as the possibility for organizations to adopt workforce contracts to support adaptability

---

(Wright/Bretthauer, 2010). A popular approach to redesigning work in this context is time-spatial flexibility. Time-spatial job crafting, for example, is a practice that allows knowledge workers to independently determine the place and time to perform their activities (Wessels et al., 2019). The third type of workplace flexibility is *flexible working arrangements*, whereby organizations give their employees the choice to plan their working hours or location more flexibly in order to accommodate social and technological developments (Allen et al., 2013). Finally, *organizational flexibility*, meaning “the ability of organizations to adapt to changes in their environment” (Bal/Izak, 2021, p. 39), is in close relation to strategic flexibility and mostly relates to a company’s capabilities to respond quickly and adapt to their environment. In connection with organizational flexibility, the flexibility of the operation of the company and the organization of employee management has so far been mentioned in the literature when it comes to achieving good performance through flexibility (Schreyögg/Sydow, 2010). In regard to real estate, flexibility originates from the ownership relations/(rental) contracts, functional opportunities, and physical layout (Gibson, 2003). In the context of real estate utilization costs, literature relates to so-called “flexible office space models,” known as a form of provision with a higher degree of demand adjustment potential than, for example, property (Dabson/McAllister, 2014). The design and use of flexible space concepts and workplace environments are also discussed in the literature. Here, it becomes apparent that so far, the design of office space has not been sufficiently adapted to the required degree of flexibility, which is necessary in order to keep pace with modern working practices (Gibson, 2003). The alignment of work environments with the work tasks and strategic goals of a company are the optimal basis for different work styles (Aronoff/Kaplan, 1995; Becker, 1990; Vischer, 1996). Used as a management tool, flexible workplace management could help organizations adapt to constantly changing business processes. Elaborating on a flexible workplace management approach, this study aims to contribute to flexibility research by linking the understanding of flexibility in workplace and real estate literature through combining organizational flexibility with flexible space concepts and workplace management.

### **6.2.2 People-based Workplaces**

The purpose of CRE is expanding from pure space provision to a place where productivity and employee well-being are equally maintained (Höcker et al., 2022). In addition, increasingly, new forms of virtual (Hou et al., 2021), multi-local (Pfnür et al., 2021; Gauger et al., 2022; Voll et al., 2022b; Pfnür et al., 2023) and hybrid/digital work (Kellner et al., 2020; Gauger, 2021) reduce the space requirements of the office as not all employees work



---

there every day (Bocks, 2021). As the costs for real estate account for 20% of a company's total cost per employee (Krupper, 2015), these new trends trigger possible achievements of financial and spatial advantages in the corporate sector. For example, more efficient office space planning lowers the energy cost burden for companies (Hackl et al., 2017). However, the primary purpose of work environments as a resource should be the support of work styles through their optimal design (Vischer, 1996; Windlinger/Tuzcuoglu 2022). It is necessary to determine the actual space requirements using suitable analysis tools and involving the employees in order to avoid both vacancies and office congestion. Moreover, in the increasingly strong war for talent, companies must pay attention to meeting the requirements of the users, which underlines the importance of an employee-centric attitude (Beechler/Woodward, 2009; Ronda et al., 2018; Pataki-Bittó/Kapusy, 2021). Individuals as well as groups of employees are subjects of attention (Kämpf-Dern/Konkol, 2017). In offices, employees of different generations, genders, nationalities, and personalities work together but may follow different value systems and mentalities (Haynes 2011). As a result, each group might work differently and has different demands on the workplace. Their work activities are diverse and continue to increase with higher flexibility in work design (Tagliaro et al., 2022). Conflicting statements about the proportion of each activity performed (Gensler, 2019; Tagliaro et al., 2022), or even about the amount of time spent on individual tasks and teamwork, exist (Tagliaro/Ciaramella, 2016). The workspace design and layout of offices thus have to change significantly in the future, without knowing exactly which activities employees will still perform in the changing corporate environment.

For workplace space planning, the investigation of work activity patterns has been crucial (Tagliaro et al., 2022). Following the basic idea of the concept of activity-based working (ABW) design (Appel-Meulenbroek et al., 2011; Engelen et al., 2019), it is assumed that employees benefit from having different work environments to spatially support each activity as they complete their manifold tasks (Babapour et al., 2018). Subsequently, by aligning office space with employee activity patterns, the influence of well-being and performance can be moderated (Soriano et al., 2020) even though it has also been uncovered that those success factors vary type-specifically in different office forms (Jurecic et al., 2018). Several authors try to give an overview of schematic work activity patterns existing for knowledge workers, which are referred to as workstyles or character and work types (Hardy et al., 2008; Greene/Myerson, 2011; Jurecic et al., 2018). However, a uniformly defined classification does not yet exist.

A large number of studies (JLL, 2020; Steelcase, 2022; PwC, 2021) give pause for thought that employees like to pursue different activities in different places. Thereby, employees

---

make their workplace choice much more consciously in the hybrid working environment and further consider where they would like to pursue which of their tasks (Marzban et al., 2023). This is because, especially since the COVID-19 pandemic, employees have developed a good sense of where they can work successfully, which leads to some of them deciding to work from home more often (Höcker et al., 2022; Pfnür et al., 2023). It is also assumed that employees visit the corporate office for social interaction, meetings, and networking while working from home for concentrated individual work (Marzban et al., 2023). In offices, ABW workspace design, including appropriate furnishings, is aimed at supporting individual work and teamwork in the best possible way (Greene/Myerson, 2011). ABW workspaces yield significantly higher satisfaction results on key indoor environmental quality dimensions, perceived productivity, and health than other workspaces (Candido et al., 2018; Arundell et al., 2018). If the needs and requirements for future-oriented and user-oriented office space are met, then positive effects on employees and, conversely, on the success of the company, can be realized (Van der Voordt, 2004). This highlights the immense impact of a people-based approach for office layouts on occupants' outcomes. In order to be spatially ready for all possibilities in appropriate proportions, the ABW concept is identified as being important for organizational adaptability (Marzban et al., 2023). Thus, it serves as the basis for this paper's approach to flexible workplace management.

### **6.2.3 Dynamic Capabilities**

In the future of work context, the DCT is applied not only in its original field, strategic management, but also in most of the important areas of business administration (Schilke et al., 2018; Barreto, 2010). DCT, as an extension of the resource-based view, is mentioned as a source of competitive advantage (Henderson/Cocburn, 1994; Teece et al., 1997; Bleadly et al., 2018) as an explanation for how companies respond to change (Newey/Zahra, 2009) and aimed toward strategic change (Helfat/Winter, 2011). Due to very general formulations and diverse use of the term "dynamic capabilities" it is difficult to find a unique definition (Barreto, 2010). Güttel et al. (2012) compare a variety of definitions before they conclude that DCs are those competencies that enable companies to adapt their resource and routine base to align with changing environmental conditions.

According to Ludwig and Pemberton (2011), firms are successful if they can adapt their current routines because they have the DCs they need. DCs have an activating effect on organizations by integrating, assembling, and reconfiguring resources and capabilities (Teece et al., 1997). As a result, a high adaptability to rapidly changing environmental conditions is possible (Teece, 2018), which maintains competitiveness (Overby et al. 2006). But companies can only compete sustainably if they also identify and reconfigure the

---

availability of suitable resources (Eisenhardt/Martin, 2000). To do this, companies need processes that are grounded on three main pillars: sensing, seizing, and transforming (Teece, 2007; Bratnicka-Myśliwiec et al., 2019). In short, sensing is the process of, on the one hand, identifying opportunities and challenges facing the company, but then also transporting this knowledge within the company to the relevant body that can use it. In the next step of the process, seizing, opportunities must be exploited. This is possible by actively taking action. In the context of the final step, transforming, Teece (1986) mentions “cospecialization” as a success factor of the transformation process, whereby a continuous realignment between strategy, structure, and processes in companies can be understood.

In the field of DCT there are various approaches and theories that focus on the adaptive capabilities of a company and its employees, with some described as valuable (Heidt et al., 2023). DCs can serve as a systematic means that brings with it the ability to perform activities in a practiced and structured manner to deal with change (Schilke et al., 2018). DCs also serve organizations to actively respond to the business environment by purposefully using their resources (Teece et al., 1997) as well as processes to modify, integrate, and renew their existing competences (Dejardin et al., 2023). After all, work environments and employees are the company’s resources that can be used to seize the opportunity for a good starting position in the changing world of work. By creating change while recognizing the firm’s existing resource base and strategy (Schilke et al., 2018), office workspaces, and their design can have a demonstrably positive effect on the productivity of employees (Voll et al., 2022a) and improve organizational profitability (Windlinger/Tuzcuoglu, 2022). Thus, DCT as an existing theory of management is highly influenced by the workplace of the future. Whereby, in current research, the flexibility of the operation of the company and the flexible organization of employee management have been mentioned primarily when it comes to achieving good performance through flexibility.

Utilizing this knowledge, but going beyond it, consequently, DCT is an appropriate perspective of observation for investigating flexible workplace management and office space planning for two reasons. First, DCs are perceived as a possibility to support a company’s ability to be flexible. Precisely this characteristic is it that companies need for their office space planning, especially in the rapidly changing world of work (Schreyögg/Kliesch-Eberl, 2007). Second, DCs encompass strategy, content, and process (Helfat et al., 2007). All three of these areas must be included when developing a flexible workplace management approach that combines organizational flexibility and flexible space concepts, as is the aim of this study.

### 6.3 Research Framework

The literature analysis shows the wide range of applications of DCT as a source of competitive advantage, as an approach to explaining the ability to react to change, or to map paths of strategic change (Newey/Zahra, 2009; Helfat/Winter, 2011; Bledy et al., 2018). This study focuses on how companies can react flexibly to changing requirements with their workplace management. In order to develop a flexible workplace management approach, the understanding of organizational flexibility and flexible space concepts are combined (Gibson, 2003; Bal/Izak, 2021). DCs are applied to initiate variation in the process of office space planning, following the attempt of Güttel et al. (2012), who describe how DCs purposefully influence change within an organization by regulating change activities in a routinized and planned manner. Corporates have to increase their adaptability to the dynamic environment while the employees' ability to work is maintained or even increased (Marzban et al., 2023). Therefore, a people-based approach is valuable to develop a successful strategy for flexible workplace management (Van der Voordt, 2004).

Based on the original DCT model, the three process components of DCT—sensing, seizing and transforming—are applied to the workplace management context. The identified potential threats, opportunities, and strategic issues with relevance for office space planning build on insights from DCs and workplace management literature, and studies on the impact of hybrid work since COVID-19. The proposed DCs and strategy are combined to create and refine a strong and flexible business model, which guides organizational transformation. *Figure 15* presents an overview of the research framework.

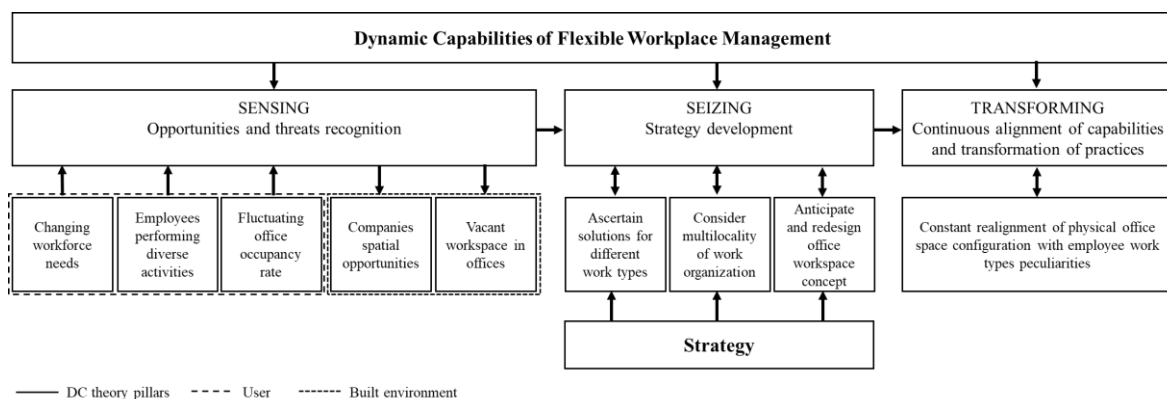


Figure 15: Schema of the flexible workplace management framework (own elaboration following Teece, 2018; Cabral/Winden, 2022)

Through content analysis, Schilke et al. (2018) show complementation of different perspectives on DCs, including the definitions by Teece et al. (1997), Eisenhardt and Martin (2000), and Helfat et al. (2007). Building on their insight, the framework of this study builds on Teece's (2018) schema of DCs, business models, and strategy because the author seeks to

---

frame rather broad micro-foundations (sensing, seizing, transforming) that can be applied to the specific context (Teece, 2007).

Sensing is used to recognize opportunities and threats in the corporate environment (Helfat/Peteraf, 2015). This activity includes the identification of changing customer needs and (technological) possibilities. Therefore, the adapted framework for flexible workplace management includes the sensing activities of two groups: first, the ones related to the user and, second, those in connection to the built environment. Derived from the literature and current challenges in practice, the users' key issues are summarized by changing workforce needs (Joy/Haynes, 2011; Haynes, 2011; Lowell/Morris, 2019), the diverse activities the employees of a company are performing to fulfill their tasks (Tagliaro/Ciaramella, 2016; Windlinger/Tuzcuoglu, 2022; Tagliaro et al., 2022), and the varying occupancy rate occurring through hybrid work modalities (Pfnür et al., 2023; Bocks, 2021). Recognized opportunities and threats of the built environment are the spatial opportunities and boundaries of a company's office building and the vacant workspace due to flexible working models (Kellner et al., 2020; Pfnür et al., 2023).

Seizing refers to the addressing of sensed opportunities through new developed processes (Teece, 2007). This can be done by improving competences and investing in particular activities. By combining both external and internal knowledge strategic decision-making is performed. In the dynamic environment, CREM has to make judgments for future demands with uncertain circumstances (Höcker et al., 2022). The seizing procedure of the developed approach is based on the assumption that office space should be seen as a dynamic capability because it creates a competitive advantage by attracting new talent and supporting existing employees performing their job (Vischer, 1996; Windlinger/Tuzcuoglu, 2022). Thus, it is proposed that the necessary flexibility in workplace management can be handled most efficiently and successfully if it is aligned with the people of the company (Beechler/Woodward, 2009; Ronda et al., 2018; Pataki-Bittó/Kapusy, 2021). This people-based strategy is based on the development of different employee work types that reflect a company's workforce (Tagliaro et al., 2022; Babapour et al., 2018).

The third dynamic capability process component, transformation, is necessary to maintain success after developing and implementing new strategies. Through the reconfiguration of processes, structures, and resources, the strategy is implemented to achieve efficient changes (Li/Liu 2014). Transferred to flexible workplace management, this means a constant monitoring and, if necessary, regular realignment of the developed space concept to the corporate's workforce.

---

## 6.4 Methodology

To allow adaptability to changing environmental requirements, in this study, an approach to flexible workplace management is developed by utilizing the space resources to support the human resources in the best possible way. So far, based on literature, a framework for flexible workplace management has been developed. Subsequently, a single-case study is used to test and show how this proposed application of DCT can be practically applied in an organization (Dyer/Wilkins, 1991; Yin, 2014). With the awareness that a case study alone cannot generate completely generalizable findings, it nevertheless makes a valuable contribution to theory development (Fiss, 2009). Case studies can help discover and explore interactions between strategy, structure, and processes because corporate objects are studied in context (Yin, 2014). The research strategy concentrates on understanding the dynamics within a certain real-life situation to create the necessary depth to deal extensively with the various case facets (Morgan, 2012). By integrating the case study, an initial comparison of the developed theory application and actual practice takes place whereby an evidence-based concept can be formed and DCT can be developed (Eisenhardt, 1989). Building upon Morgan's (2012) conceptualization of case study outcomes, the subsequent narrative presents a cohesive integration of raw data and analysis, culminating in a practical application of theoretical frameworks.

The study's subject is a German corporate office of an international company with over 60,000 employees worldwide. The company was in the process of restructuring its office space. Triggered by the damage of a building, the office located there had to be rebuilt. In the course of this redesign, the organization was looking for a way to also adapt the spaces in other company buildings in the future in view of the noticeable changes brought about by hybrid working. As the entire process of restructuring several buildings would extend over a long period of time and the company's internal and external influences could change during this time, the concept should have a high degree of flexibility. It was a major concern for the company management to involve the employees in the process. A project team was formed comprising employees from CREM and HR at the company as well as external consultants, with the goal to develop a solution for the new office. After recognition of opportunities and threats in the corporate environment related to the user and the built environment, a strategy for flexible workplace management should be developed with which a continuous transformation of the office space in the company can be achieved. These characteristics make the company particularly suitable for investigating the research question under consideration in the form of a case study and it was therefore selected.

---

The case study methodology allows the use of several research methods (Morgan, 2012). Therefore, data were gathered through literature, interviews, and survey questionnaires to foster data source triangulation (Eisenhardt, 1989).

The first step was a broad analysis of the literature and internal company documents. Knowledge workers perform a variety of different tasks. Therefore, it was necessary to find out which activities the employees perform and where they perform those primarily to indicate changes in requirements. This serves to identify the needs and possible vacancies. Those activities can be grouped into what is hereafter called “work modes.” This reduction of complexity allows tasks to be integrate that are relevant for the knowledge workers of the surveyed company. Several studies have already attempted to form groups of employees (Leesman, 2017; Jurecic et al., 2018; Tagliaro et al., 2022) and include a wide variety of criteria, such as basic dimensions of knowledge work, mobility behavior, and duration of individual tasks, in order to answer the overarching question of how modern work environments should be designed. From their findings, they derive specific success factors for the design of typified work environments, which suggest a different solution for each organization. However, because all these studies took place before the massive change in the way of working due to the pandemic and this study does not want to refer to sheer predictions of future developments, activities and work modes are identified for the specific case. At the request of management, the focus is on a people-based approach. Therefore, exclusively knowledge workers’ self-reported activities and their desired workplace for doing so are included. In six semi-structured interviews with user representatives from the company, the activities collected from literature are discussed and case-specific modified. These 20–30-minute interviews with participants from different departments and hierarchical levels were conducted by the authors of this study and analyzed qualitatively according to Mayring and Fenzl (2019).

Then, in 2021, a survey was conducted to determine the space distribution of the new office based on the user needs. The questionnaire was distributed to 1,000 employees via an internal company system. Questions regarding the current way of working, working before COVID-19 and working in an ideal future scenario are contained. To measure the work mode shares, respondents indicate on a scale of 0–100% for each work mode its percentage share of a typical working week. The sum must add up to 100%. Measurement of the desired work locations in the future is done for each work mode, using a five-point Likert scale from “100% in the office” to “100% mobile/at home.” To gain a better understanding of the nature of the collaboration taking place, employees were additionally asked about their teamwork on three levels: the degree to which the content of tasks was interdependent, the type of

---

discussions, and the size of meetings. Using five-point Likert scales, the degree of content dependency was differentiated from “autonomous” to “interdependent,” the type of discussions from “ad-hoc” to “planned,” and the meeting size from “small groups” to “mostly the whole team.” The situation before and during COVID-19 is queried as is the preferred team style in an ideal future. The completed self-administered questionnaires were submitted online with an average completion time of 17 minutes. After data cleaning, whereby questionnaires that are not fully or credibly answered are removed, a sample size of  $N = 754$  remained to be empirically analyzed.

Finally, based on previous studies with a comparable methodological objective, the quantitative method of cluster analysis is used to differentiate the configuration of work types in order to sense the workforce activities and needs (e.g., Lim et al., 2006; Jurecic et al., 2018; Höcker et al., 2022). The aim of cluster analysis is to identify subgroups from a group of study participants on the basis of their characteristics, whereby respondents with homogeneous characteristics are classified in the same group. The groups among themselves should be as heterogeneous as possible. For the cluster analysis in this study, the seven developed work modes (see Table 2) serve as input factors. Ward’s method is applied as a fusion algorithm due to its wide use in practice (Backhaus et al., 2021). The cluster analysis follows three steps. First, similarities are determined, second, they are fused using the selected fusion algorithm, and lastly, the number of clusters is determined (Backhaus et al., 2021). The results of the cluster analysis serve as the basis for the office space planning. After the conversion, the company plans to conduct a further survey to review the success of the concept, take into account any new requirements, and flexibly adapt the concept; however, this does not form part of the content of this study.

## **6.5 Results**

### **6.5.1 Sensing of Activities and Work Modes**

Seven work modes are identified from literature and the interviews based on the similarities among and differences between the activities concerning a similar way of working. They can be grouped into three overarching categories. First, *individual work*, second *collaboration and teamwork*, and third, *other* activities, depending on the company evaluated, e.g., here, laboratory or handcraft work. Table 22 shows the work modes with their assigned category and a description. The description promotes a uniform understanding of the content and is presented to the employees in the questionnaire as an explanation of the work modes.



Table 22: Work modes

Category	Work Mode	Description
Individual work	Desk work	Medium concentration, slight distraction by colleagues in between unproblematic, e.g., telephone calls/video calls, writing or reading e-mails
	Concentration	High concentration, undisturbed, quiet, alone, isolated, focused individual work
Collaboration / teamwork	Project work	Project work with several colleagues involved in terms of content, e.g., concept work and brainstorming
	Meeting	Scheduled, formal meetings, voting/reporting/presenting
	Formal communication	Spontaneous exchange, short conversations with 2–3 people, e.g., coordination, queries, and feedback
	Informal communication	Social exchanges, chance encounters, spontaneous informal conversations, and breaks
Other	Other	Other activities that do not fall into the other categories, e.g., laboratory or handcraft work

Individual work includes *desk work*, such as video calls or answering e-mails, and concentration with tasks that need higher focus without disturbances. The collaboration and teamwork tasks are divided into four work modes: *project work*, *meetings*, and *formal* and *informal communication*. *Project work* includes tasks with several colleagues involved. In terms of content, concept work and brainstorming take place. The work mode *meeting* includes scheduled, formal meetings with a focus on voting, reporting, or presenting rather than on collaborative work. *Formal communication* implies spontaneous exchange and short conversations with about two to three people, e.g., coordination, queries, and feedback. Within the work mode, *informal communication*, social exchanges, chance encounters, spontaneous informal conversations, and breaks are included. Summarizing, all four collaboration work modes have a high proportion of communication and interaction. Finally, all *other* activities include those that cannot be fit into the other two categories, e.g., laboratory or handcraft work.

## 6.5.2 Seizing Solutions for Different Work Types

### Work Type Clusters

The descriptive data of the sample derived from the employee survey reveals a representative sample with regard to the overall company structure and equals the average data for German office employees. A distribution of 43.1% women to 56.9% men and an average age of 43.1 years occurs. Within the sample, 611 employees (81%) work full-time, 99 participants

(13.1%) work part-time, and 44 people (5.8%) have other employment relationships. On average, participants worked four days per week in the office prior to the shift in work to the home office due to the COVID-19 pandemic. In 2021, the proportion of employees who use flexible working models in the company is 51% and can be assumed to be even higher in relation to office-only employees. Finally, the sample's average working time per day spent at a desk is 78%.

A cluster analysis is performed to identify the work types and possible differences in their requirements. *Table 23* presents the descriptive statistics of the characteristics used for clustering. With regard to the seven considered work modes, respondents mostly perform desk work, with an average of 28.2% followed by meetings (19.5%) and concentration (18.1%). The greatest standard deviation in responses is given in desk work.

Table 23: Mean value and standard deviation of the cluster variables

Variable	$\bar{x}$ [in %]	SD [in %]
Desk work	28.2	18.0
Concentration	18.1	14.6
Project work	10.4	9.5
Meeting	19.5	14.2
Formal communication	13.4	9.6
Informal communication	7.2	6.5
Other	3.2	11.6

A total of six clusters are delineated based on the work modes, with 284 people in the largest cluster and 35 in the smallest. A dendrogram was used to determine the number of clusters and content considerations were taken into account. While Jurecic et al. (2018) find seven working types, Greene/Myerson (2011) find only four knowledge worker character types and for Hardy et al. (2008), six distinct workstyles exist. Three explorative cluster analyses are compared for five, six, and seven cluster solutions, respectively. The solution with five clusters represents a result that is not fine-grained enough (49% of the participants are in one cluster) and the solution with seven clusters is too detailed (smallest cluster had only five participants) for a representative solution.

### Shares of Work Modes, Nature of Collaboration, and Future Desired Work Locations

The name of the final six clusters is chosen on the basis of their task shares, with the work mode with the largest share usually having a decisive influence on the name. The result of the cluster analysis shows an employee distribution of 38% all-rounders, 17% each for

project and desk workers, 14% communicators, 10% thinkers, and 5% hands-on. The description of the clusters obtained from the analysis, which are referred to as work types in this study, is in descending order according to the number of people assigned to each cluster. *Figure 16* shows the designations of the work types and the proportions of their different work mode shares distributed in the clusters.

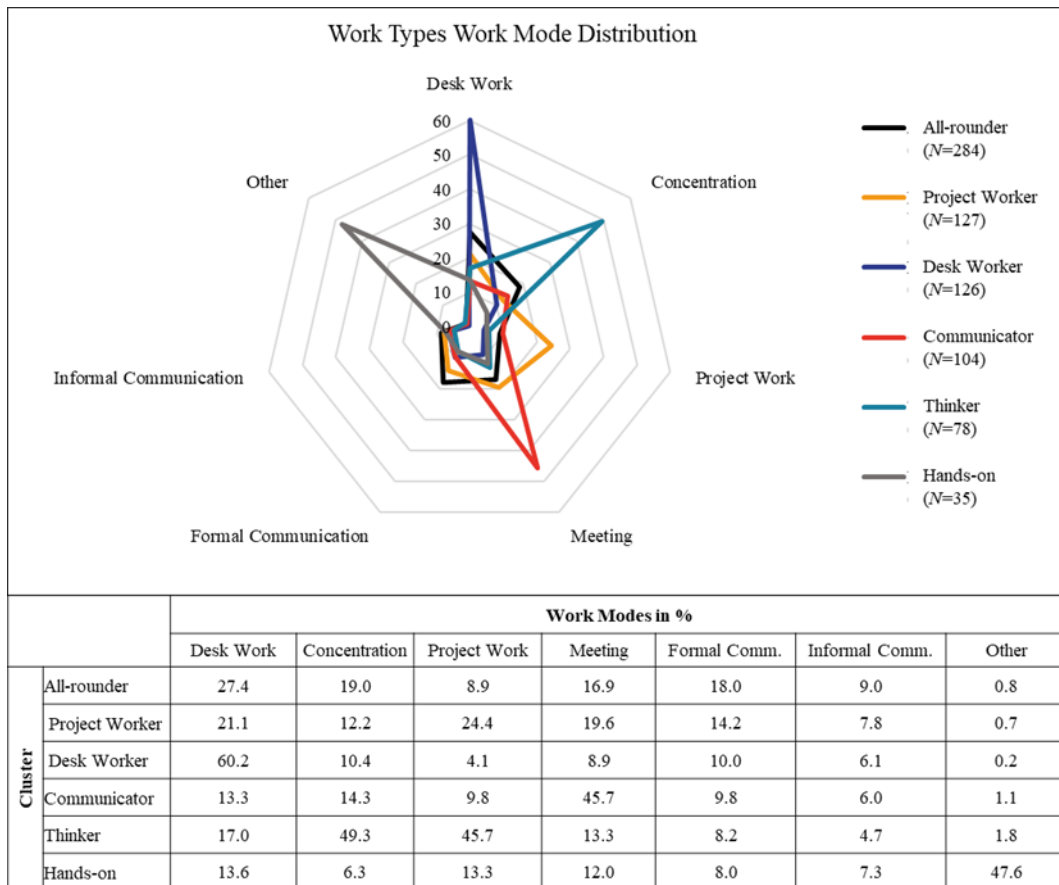


Figure 16: Work types work mode distribution

The cluster *all-rounder* includes the most employees, with  $N = 284$  people. All-rounders have a balanced distribution of their working time between individual work and collaboration (46% vs. 53%). The largest share of time is spent with desk work (27%). Compared to the other five clusters, this cluster has the highest proportion of informal communication (9%). The second largest cluster is *project worker* ( $N = 127$ ). Project workers are characteristically the highest percentage, with almost one-quarter of their time involved in project work (24%). Overall, their time spend with collaboration (68%) is more than twice as large as individual work (31%).

The cluster *desk worker* includes  $N = 126$  employees. These employees work predominantly at a desk (60%) and spend almost three-quarters of their time working individually (70%).

Desk workers' main form of collaboration is formal communication. Not surprisingly, they spend no time with the work mode "other."

$N = 104$  people belong to the cluster *communicator*. This cluster has the highest share of the work mode meeting (46%). Surprisingly, the share of time spent on informal communication (6%) is the second lowest in the cluster comparison. Overall, communicators only work about one-quarter of the time individually (27%).

The cluster *thinker* includes  $N = 78$  people. Employees with this work type work predominantly in a highly concentrated manner. More than half of the time they work individually (66%). Their main form of collaboration is meetings (13%). In the cluster comparison, thinkers have the second highest share of other activities even though these only require 2% of their time. Thinkers also have the lowest percentage of informal communication (5%) of all clusters.

The smallest cluster is named *hands-on* ( $N = 35$ ). Employees of this work type work almost half their time in the "other" work mode (48%), with activities like laboratory or handcraft work. The remaining time is divided in individual work (20%) and collaboration (32%).

In addition to the clusters' share of work modes, their nature of collaboration is also analyzed. Regarding teamwork, the clusters have indicated different expressions in terms of the content of tasks, the type of discussions, and the size of meetings. The situation before and during COVID-19 as well as an ideal future is described. *Table 24* shows the results divided by work type, time, and teamwork level.

Table 24: Case study employees' nature of collaboration

Work Type		All-rounder ( $N = 284$ )			Project Worker ( $N = 127$ )			Desk Worker ( $N = 126$ )			Communicator ( $N = 104$ )			Thinker ( $N = 78$ )			Hands-on ( $N = 35$ )		
		Before Covid	During Covid	Ideal future	Before Covid	During Covid	Ideal future	Before Covid	During Covid	Ideal future	Before Covid	During Covid	Ideal future	Before Covid	During Covid	Ideal future	Before Covid	During Covid	Ideal future
Teamwork Level (Mean Value)	Content of Tasks	2.86	2.82	2.98	2.52	2.41	2.70	3.43	3.01	3.52	3.37	3.18	3.38	2.58	2.82	2.88	2.82	2.74	2.83
	Type of Discussions	2.93	3.18	2.70	2.66	3.04	2.50	2.99	3.34	2.77	3.38	3.46	2.87	2.91	3.14	2.85	2.74	3.18	2.49
	Size of Meetings	2.62	2.71	2.51	2.76	2.70	2.58	2.80	2.71	2.53	2.88	2.93	2.66	2.94	2.89	2.66	2.65	2.64	2.63

Note: Content of tasks is measured on a 5-point Likert scale from 1= autonomous to 5= interdependent work. Type of discussion is measured on a 5-point Likert scale from 1= ad-hoc to 5= planned. Size of meetings is measured on a 5-point Likert scale from 1= small groups to 5= mostly the whole team.

In the past and during COVID-19, project workers performed their tasks mostly autonomously, whereas communicators worked more interdependently. They also had the most ad-hoc conversations, whereas communicators had the most scheduled conversations. Asked for their ideal future, project workers still want to work mostly autonomously but desk workers show the strongest desire for interdependent tasks. Hands-on would like to have the fewest ad-hoc conversations and communicators would still like to have planned conversations. Meetings in the past were most often in small groups only for all-rounders

and most often with the whole team for thinkers. During COVID-19, hands-on conduct the most frequent small meetings and communicators conduct most often large group meetings. In an ideal future, all-rounders would most often want to have meetings in small groups and communicators and thinkers would most often want to have meetings in large groups.

The work type clusters presented and their characteristics in the individual work mode shares reflect the heterogeneity of the company’s workforce. The next step illustrates that the six work types also prefer different work locations for the performance of their work modes, which might make the concept of multilocality in work organization necessary. Here, it is merely a matter of distinguishing whether the completed work mode can and would be better done in the office or mobile, e.g., from home. *Figure 17* presents the desired work locations in the future per work mode for each work type.

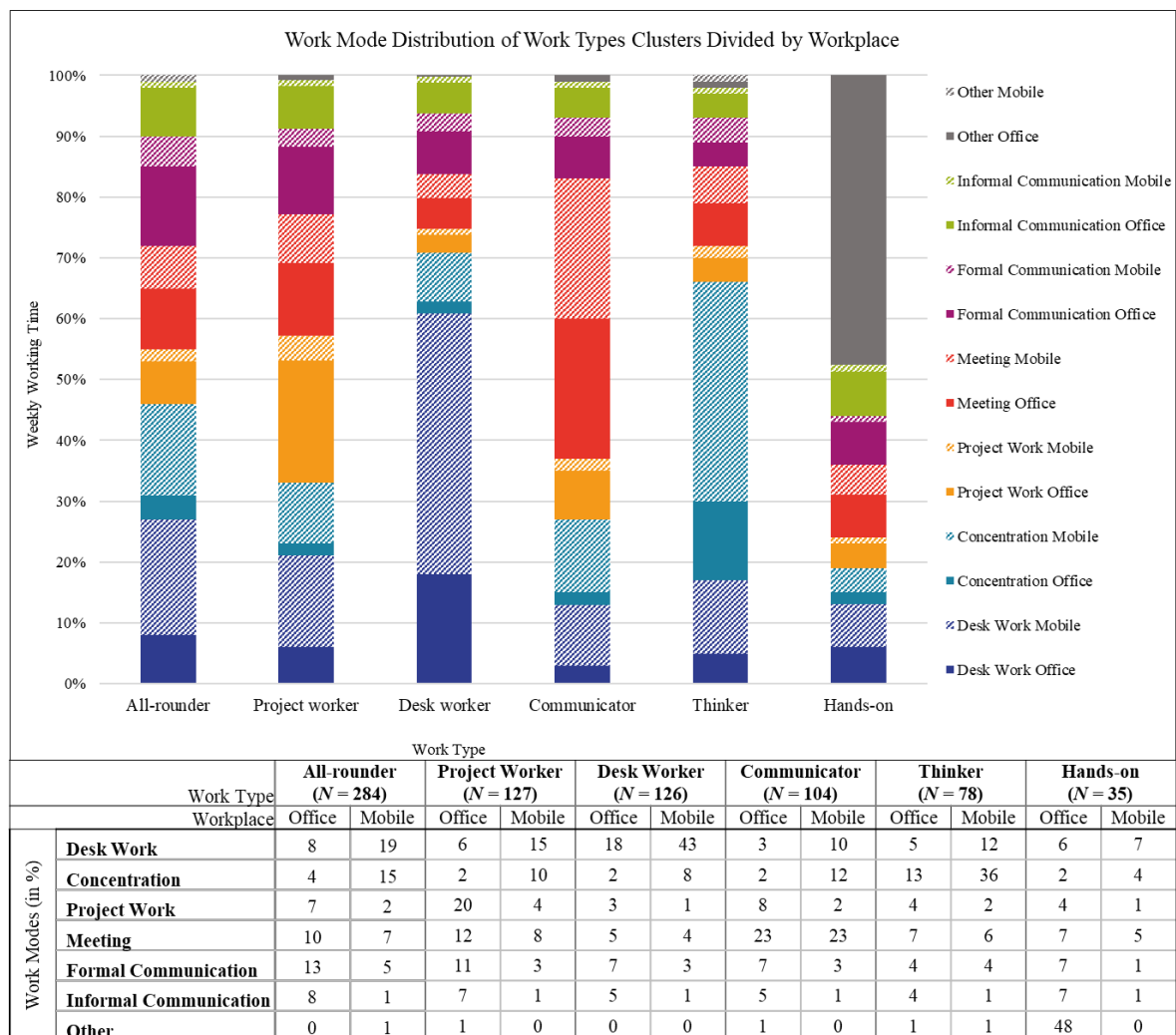


Figure 17: Desired future workplace distribution

The work types prefer to work a different amount of time in the office and mobile, e.g., from home. While all-rounders want to use the two locations half each (50%), project workers

prefer to work in the office a little more (59%). Desk workers want to work in the office only 40% of their weekly working time. Communicators prefer to work 49% of their time in the office and thinkers only 38%. Opposing views are hands-on who want to spend 81% of their weekly working time in the office.

### Office Space Division

In order to redesign a corporate’s office workspace, the proportions of the work modes must be anticipated. The distribution of activities per place and per work mode is deliberately presented for each cluster separately in the previous step. This is because as the percentage distribution of employees in each cluster shows, different numbers of people per work type want to work frequently within the office space. In order to weight this distribution fairly when calculating the proportion of work modes in the office, the proportions of the individual clusters per work mode are multiplied by the total number of people per cluster and then divided by the total number of employees. For each work mode, the sum of all six shares is then calculated. Although it would be possible to simply calculate the proportions of work modes across the entire sample, the cluster-by-cluster calculation is chosen to allow for flexible adjustments if the workforce changes in the future. The result of this calculation is shown in *Figure 18*.

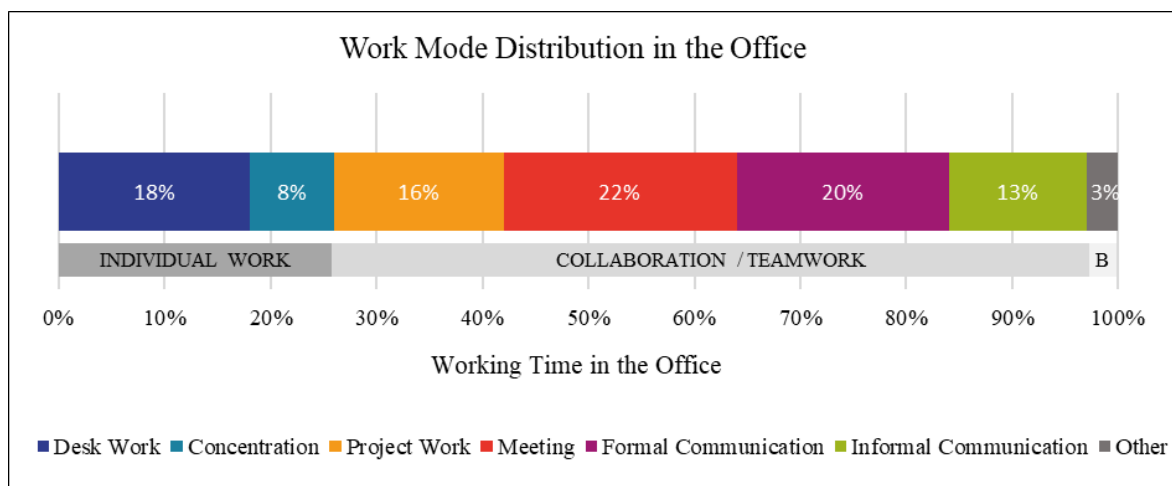


Figure 18: Work mode distribution in the office

The office space distribution presented is based on the percentage of time spent in each work mode. The calculation results in a proportion of individual work of 26% for the employees surveyed in this study. Of this, they work 18% of their weekly working time at their desk with medium concentration, where slight distractions by colleagues are unproblematic. Another 8% of their time at a single workstation they need high concentration, best to be undisturbed, with quiet surroundings or alone, to focus on individual work. Time spent for collaboration and teamwork almost marks 71%. Here, the employees work 16% of the time

---

in projects with several colleagues involved in terms of content, e.g., concept work and brainstorming. Scheduled, formal meetings—for example, presenting—takes up 22% of the weekly working time. Nearly as much time (20%) is spent with formal communication, such as spontaneous exchange or short conversations with two to three people, e.g., for coordination. The smallest share of collaboration work modes has informal communication (13%), which includes social exchanges, chance encounters, spontaneous informal conversations, and breaks. Finally, only 3% of the time is spent with other activities that do not fall into the remaining categories and can take place at single workstations in common areas.

The space in the new office is designed in line with the percentage of working time spent in the individual work modes. The employees state that they would like to pursue their activities in the office on average 53% of the working time. In this time, in their opinion, they seem to be better able to pursue the various activities in the office. If they are given the opportunity to work flexibly in the office for this half of the working time, then it can have a positive effect on their satisfaction. If every employee would work in the office at the same time, then the 53%-time share is divided into 26% for individual work and 71% for collaboration. A further 3% is spent with other activities. In the office, the share of teamwork is thus almost three times as high as that of individual and partially concentrated activities. This distribution must be reflected in the space mix and configuration offered. Collaboration and teamwork take place with more than one employee. Adequate numbers of meeting rooms, think tanks, common areas, and places for communication, innovation, and creativity support collaborative work. Inviting and openly designed seating areas or social interaction spaces encourage chance encounters. Individual work is performed at single workstations. The immediate environment should provide an appropriate level of privacy as well as a silent surrounding for tasks to be completed in a concentrated manner. This can be a single or multi-person office, but equally a shared workspace or concentration room, like a phone booth, that meets these conditions. Additionally, there are other activities depending on the company evaluated, e.g., laboratory or handcraft work, which might be done individually or together at a single workstation or in common areas or even impose special requirements on the workspaces.

### **6.5.3 Transforming**

Based on the results of sensing and seizing presented above, a target state is defined within the company. This relates to the optimal allocation of the office space and the work modes that are carried out there. Building on this, the process presented can be run through

regularly in order to make further small adjustments. Thus, as a result, the company has a strategy available for implementation and continuous alignment.

The structural redesign of the office space in the case study company is planned on the strategy developed. However, as the completion is not yet finalized and the process is highly individual, it will not be further elaborated in the scope of this study. Once the redesign of the office workspace has been completed, a post-evaluation is planned in order to identify the need for possible follow-up measures. In the future, workplace management will be able to make flexible changes based on the strategy of planning the office space appropriately with the help of the identified work types and their work modes.

### 6.6 Discussion and Conclusion

This study attempts to answer the question of how organizations can increase the adaptability of the company to the dynamic business environment and improve the work ability of employees through flexible workplace management. Based on the results of the case study, the proposed DCT framework for flexible workplace management is extended and presented in *Figure 19*.

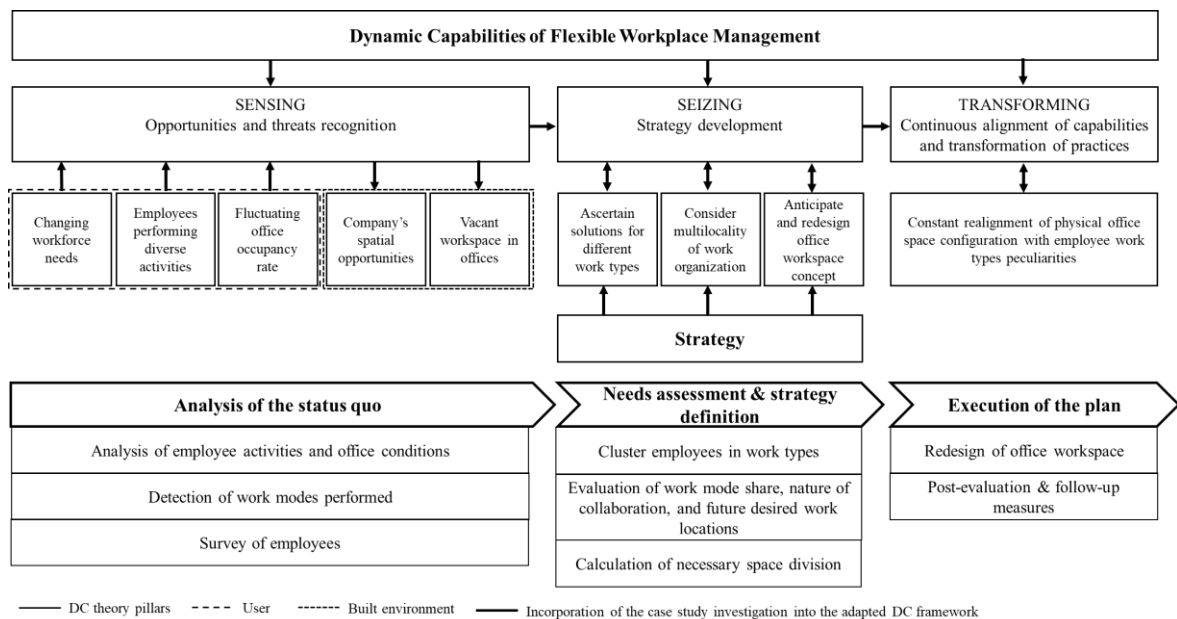


Figure 19: Procedure steps for the application of flexible workplace management

Cabral and Winden's (2022) recognition that the capabilities to sense, seize, and transform are not only situated within the management of the organization, but also take place in close alignment with the user, can be supported in this study with the given case study data. In all three process components, the employees of a company act as a key resource and should therefore be included in the procedure.



---

When it comes to sensing, the derivation of activities performed by the employees is crucial in addition to the knowledge about the office conditions. Appel-Meulenbroek et al. (2018) state that the effectiveness in the workplace has not yet been fully enlightened. This study contributes to a better understanding of how a people-based approach can be used to analyze how the physical office environment affects employees, starting with the detection of work modes performed. Employees' efficient processing of their tasks leads to satisfaction (Gerards et al., 2018). Building on this knowledge, this study suggests conducting an employee survey to determine activities, collaboration behavior, and preferred work locations in order to avoid planning without taking reality into account.

With regard to seizing, again, the employees should be integrated when initiating CREM's strategy development for a flexible workplace management. In accordance with existing schematic patterns of work activities (Hardy et al., 2008; Greene/Myerson, 2011; Jurecic et al., 2018), the case study's cluster analysis results indicate the existence of different work types in the workforce. All-rounder (37.6%), project worker (16.9%), desk worker (16.7%), communicator (13.7%), thinker (10.4%), and hands-on (4.7%) show different work mode distributions, variety in their nature in collaboration, and prefer different workplaces for certain activities. Because success factors vary type-specifically in different office forms (Jurecic et al., 2018), this study illustrated the need for a wide range of different spaces that are adapted to the respective forms of work in order to support different tasks successfully. In line with Bocks's (2021) perception of varying occupancy rates due to hybrid working arrangements, this is also expected due to the differing preferences of the work types with regard to the proportion of work they wish to perform in the office. The assumption that employees particularly want to come to the office for social interaction, meetings, and networking (Marzban et al., 2023) is also confirmed in this study by the case study results that 71% of the time desired in the office in the future can be allocated to activities in the collaboration category. Thus, Rupiotta and Beckmann's (2018) call for employees' freedom in choosing their workplace is reinforced based on the case study results. Moreover, for their office space, companies should focus in particular on areas that promote communication and collaboration. A variety of these open areas, for random and planned exchanges, can be created through a mix of meeting rooms, project spaces, and social places such as coffee corners. However, there should also be partly enclosed spaces for individual activities. These can be in the form of various room modules as places for concentrated work and also telephone conversations or individual work (Peyinghaus/Zeitner, 2019). By creating different zones, the work types can choose workplaces that correspond to their work modes. The analysis of collaboration activities makes it clear once again that meeting areas for

---

spontaneous exchange in the office have enormous relevance. This is where social interaction, creativity, and spontaneous collaboration can take place. By using flexible elements and movable furniture, the design can be quickly adapted to conditions changing in the future.

Finally, regarding transforming of the processes, the redesign of the office marks the starting point of a continuous alignment of space to employee needs. If CREM succeeds in utilizing space resources through flexible workplace management in such a way that the employee resource benefits, e.g., by giving all work types the freedom to work where it is best for them and to find suitable places for their activities in the office through an appropriate distribution of space, then the company can be supported in surviving in a dynamic environment. Further adjustment requirements can be identified through post-evaluations and implemented in agile follow-up measures. This view is in line with Heidt et al. (2023), who relates the adaptability of a company and its employees to agility in a workplace context and emphasizes the added value for adaptability and flexibility in dynamic and uncertain situations.

### **6.6.1 Theoretical Implications**

The study contributes to the research streams of flexibility and dynamic capabilities by showing how office space itself can be utilized in the context of a dynamic capability. In the field of flexibility research, existing knowledge is extended by linking the understandings of flexibility in workplace and real estate literature (Gibson, 2003; Hill et al., 2008; Dabson/McAllister, 2014; Bal/Izak, 2021). The intersection between organizational flexibility and flexible space concepts and workplace management through the developed flexible workplace management approach opens up new space for interdisciplinary research between CREM, HR, and strategy.

The combination of theory and the practical example of the case study enables the development of an evidence-based concept that further develops DCT (Eisenhardt, 1989). Following on from existing research that recognizes that resources over which the company has limited control, such as employees, and seeks to address this need (Cabral/Winden, 2022), this study places employees at the center of DCT extension through the people-based approach. Together with the employees as a key resource, flexible workplace management has the ability to control the ways in which corporates can cope in the hybrid and dynamic environment. Furthermore, the developed DCT framework offers an initial proposal for the missing explanation of concrete organizational adaptation processes (Güttel et al., 2012). Through the developed framework, the study also meets the demand of Remy and Van der Voordt (2013) for new approaches to realize a redesign in office space planning to achieve

---

the necessary flexibility in workplace management. In addition, the results support that the working environment as a resource should enable different working styles through their optimal design (Vischer, 1996; Windlinger/Tuzcuoglu, 2021) and even offer an approach on how to proceed in determining the required space design.

### **6.6.2 Practical Contributions**

The study is relevant for corporates as it is one of the first to demonstrate how the reconfiguration of space resources can practically achieve flexibility despite the rigidity in real estate while at the same time focusing on employee performance through the people-based approach. The theoretically derived framework has been supplemented by the case study with practical approaches and offers corporates important key elements for sustainable success. For companies, the proposed approach to flexible workplace management includes a variety of advantages. First and foremost is the possibility to react flexibly to the environment and to initiate adjustments in the office space more easily and at short notice when following the steps to develop their office space strategy. As a result, the overall goal of creating value for the company can be reached through the valuable workspace itself as well as generated through their employees' improved performance. In addition, modern work landscapes can be a visible building block in corporate communications and for acquiring talent. Thus, by dividing the office space into work areas, each with its own assigned function, the office becomes a multifunctional area individually tailored to the workforce and, at the same time, a usable marketing element. Furthermore, the approach offers employees the advantage of participating in workplace management. The people-based strategy does come with the expense of the time spend for a survey but this is outweighed by the enormous advantage of having their interests factored into office space planning.

### **6.6.3 Limitations and Suggestions for Future Research**

Research, particularly since the COVID-19 pandemic, predicts a further increase and solidification of the dynamic nature and uncertainty of the working environment. It is assumed that the trend of multi-local work, for example, work from home, will continue to be maintained. The primary purpose of this study is to take a first step toward a higher flexibility of people-based workplace management. However, this study faces some limitations, which signal future research needs. First, upcoming research should address the question of how location-flexible work and the planning of flexible office workspaces oriented to work styles in the company influence other management subsystems such as work culture, employee management, or human resource management. Second, this study

---

analyzes one German company. Future studies should consider expanding their research to a larger number of corporates to reveal possibly different characteristics and approaches in order to enrich and slowly generalize the results. Another limitation arises from employee surveys based on subjectivity and the data collection. This involves the use of single-item measures and non-tested multi-item measures, increasing the risk of reliability and validity issues. Further, employees might have difficulties in anticipating their future needs as asked in the questionnaire. By evaluating objective data generated by sensors, such as on workstation utilization, employee statements can be cross-checked and validated. Further limitations result from the use of cluster analysis as an exploratory tool for the analysis of quantitative data because there are no relationships between the characteristics and outcomes of interests included when assigning the cases to the clusters. The study is also limited solely to the output of a percentage distribution of space for various activities. A post-occupancy study will be useful after the planned restructuring of the company under consideration. Additionally, no statement is made about the possible need for office space reduction, which is also discussed in research and practice due to the increasing share of mobile work. Future research can consider model-based space optimization through recalculations of sharing rates or required meeting room capacities, for example, by incorporating queuing or service theory. Finally, it should be noted that this study is based on employee activities and is a, first step toward a people-based approach. Based on Holland's theory of vocational choice (Holland, 1985; Nauta, 2010), optimally, people choose a work environment that matches with their personality and, thus, pursue activities that are suitable for them. Thus, personality indirectly influences the choice of work location. However, according to the authors, future research should examine the direct influence of personality on job choice and explore the role that task-related and person-related conditions play in determining work style.

---

## 7 Thesis Conclusions and Contribution

---

### 7.1 General Conclusion

The impact of hybrid working environments on employees and companies is an under-researched phenomenon that is attracting increasing attention. By analyzing how companies can design the physical organization of work in hybrid working environments to deploy their human and space resources efficiently, this thesis responds to two key challenges in the working world that require attention in corporate practice and research. On the one hand, the shortage of skilled workers is increasing the pressure on companies to meet new requirements of employees in terms of flexibility, particularly concerning the spatial organization of work, to continue to maintain a resilient and talented workforce. On the other hand, companies can only survive successfully in the prevailing volatile environment with the massive transformation processes if they adapt, deploy, and promote their resources in a targeted manner.

This doctoral thesis applies the ecosystemic approach according to Bronfenbrenner (1979) to better understand the overall workplace system in hybrid working environments by enabling structured observations. Through the comprehensive perspective on several workplaces of the hybrid system, this thesis provides scientific insights for workplace management under consideration of employee preferences and outcomes. In addition, this thesis brings together various relevant disciplines related to the workplace ecosystem to promote a research stream for workplace management. The analyses demonstrate that in the field of knowledge work, today's hybrid working environments consist of both physical and digital workplaces that must be coordinated and actively managed to positively influence employee outcomes. The five studies included in this thesis address the research questions successively to uncover how corporates can design the physical organization of work in a hybrid working environment in order to deploy their human and space resources efficiently.

To answer the first research question (*What role does employee workplace choice play in hybrid working environments and how can corporates use this knowledge to improve employee work success?*), the first study is especially relevant. The article focuses on the employee in hybrid working environments and, thus, begins in the center of the observational framework of this thesis (see *Figure 2*). Building on a Best–Worst scaling study and Theory Type III (Theory of Predicting) from Gregor's (2006) theoretical taxonomy, this investigation explores, for the first time to the best of the authors' knowledge, the correlations between knowledge workers' work success and their choice of workplace. The study experimentally manipulates between subjects to what extent the factors included affect either satisfaction, productivity, or workplace choice. The results reveal that the factors determining satisfaction, productivity,

---

and workplace choice are highly related. Thus, employees choose their workplace for almost the same reasons that also influence their satisfaction and productivity. This new focus on the affecting determinants of work success and workplace choice enables workplace management to better decide which strategy to pursue in order to increase the success of employees. In addition, the study reveals a broad variety of job-related, person-related, and workplace environment-related determinants, e.g., the possibility to concentrate on work, interest in activities or the flexible organization of the working day in terms of time and location, to affect work success and workplace choice. This extensive range of relevant factors highlights the necessity of a closer collaboration between HRM, IT, and CREM to meet employee preferences and maximize their outcomes. Through hybrid working environments, all three departments share common and partly new responsibilities. Only a coordinated approach can ensure the success of the company and a diverse workforce. The study thus provides good news for companies and their workplace management and meanwhile points out additional challenges. The identified relations suggest that a wide range of flexibly selectable workplaces positively affect work success. Hence, by focusing on the influencing determinants of workplace choice, the influences on work success are simultaneously addressed. In conclusion, the different areas affected by hybrid working environments, CREM, HR, IT, and C-suite, should work together to determine an appropriate level of flexibility for employees and their workplace choice, in line with the company's strategic objectives. Building on these joint forces, the creation of compelling workplace experiences for people with the right balance of policies, technology, and physical space is possible and workplace management can support the success of employees at all workplaces. With the focus on the employee at the center of the observation framework, the benefits of considering employee preferences in workplace management become apparent, as it has been shown that knowledge workers take their environments into account when deciding which workplace to use to maximize their success.

The second research question (*How do different workplaces outside the corporate office influence employee preferences and outcomes?*) is answered by this thesis's second and third articles dealing with working from home and workation. The workplace, which until now has primarily been associated with the office, represents a microsystem in the observation framework. However, because the home and other public places have also become relevant as workplaces for knowledge workers, it is important to also consider the home and third place as microsystems within the workplace ecosystem. Furthermore, this thesis's observation framework proposes that workplace management interventions not necessarily lead to the same reactions for every employee even if the same regulations apply. These

---

differences are due to characteristics that vary between employees. Thus, the reactions are shaped by moderating factors, such as the nation.

Article two develops a research model for the first place (home). The model based on JD-R and ED-R theory includes four home workplace characteristics (isolation, family–work interference, equipment/facilities, and skill variety) and four employee outcomes (satisfaction, burnout, productivity, and turnover intention) to analyze mechanisms and factors influencing employee outcomes when working from home. In addition, a multi-group analysis is carried out to investigate differences between two nations. The data reveal that workplace characteristics are influential for employee performance and organizational commitment through employee attitudes and health. The results thus confirm that the working from home configuration matters for employee work success. The study also examines whether country-specific differences in the results occur between two countries. Germany and the U.S. are two of the most prominent Western economies and have established working from home for different lengths of time. To examine country-specific differences, the study thus compares data from employees in both countries. Through this comparison, the analysis sheds light on differences in workplace characteristics determining work success at home for German and U.S. employees, leading to the conclusion that (work) culture and length of experience with working from home influence the outcomes. The article develops the understanding of the success mechanisms of working from home and is especially relevant for companies and policy makers to improve the configuration and directives of the home workplace. The detected influence of family–work interference highlights that the merging of private and professional life unifies two areas—home and work—previously considered individual microsystems in earlier studies, into a single one in the workplace ecosystem. Moreover, the results illustrate the relevance of the moderating factors proposed in the observation framework, which was demonstrated by the nation in this study.

The third article, which also concentrates on a kind of physical workplaces outside of the office, analyzes workation. The combination of work and vacation, which already existed but was less well-known before the COVID-19 pandemic, is slowly gaining attention in research. Third places are another microsystem of the workplace ecosystem framework. Working at third places means that the employee’s professional life overlaps with their social life. The article, which includes a conceptual analysis and a case study, is the first to analyze workation through providing empirical evidence. “Workation” is defined to be a description of the location-flexible work, where the domains of work and leisure/vacation blend as workation workers tend to combine private and business life by working temporarily in a

---

vacation location with the goal of greater–life–leisure integration. The developed definition and three recognized types of workation (traditional workation, coworkation, and workation retreat) allow for improved communication and further analysis in the field of work at third places by drawing on workplace and work–leisure research. Stakeholders of urban planning, tourism, restaurant, and real estate industries are addressed to become more active in the specific area of workation as a kind of shared workspace provision. In conclusion, the study shows different options for employees and how workation positively influences their outcomes. Traditional workation is mostly preferred by employees searching for an efficient organization of work and leisure time with a focus on combining work with recreational phases to improve outcomes in both business and private life. However, especially coworkation and workation retreats, the other two identified workation sub-types, are also promising for corporate (project) teams and business customers that work toward a common goal while searching for alignment of an inspiring work situation in an attractive environment or those corporate segments looking for time off both for joint project work or as an off-site team event. Thus, for the future working world, if it is possible to work from anywhere, even from third places outside a country’s borders, employees and companies can benefit. Once the most difficult technical and legal difficulties have been overcome and accompanied by good guidance the benefits can be fully exploited. Based on this and the previous article, both examining the physical workplaces outside the office (working from home and workation), it is derived that different aspects of each workplace influence employee outcome dynamics in many ways. The preferences and outcomes of employees differ from person to person, e.g., due to cultural influences, but also due to the family situation, the spatial conditions for working from home or the desired work result and leisure goal. Due to the complex interaction of the effects, it is not easy to determine whether a place of work is objectively better than another. Instead, there are advantages and disadvantages for different employees in various microsystems, which is why the value in the workplace ecosystem arises from the wide range of workplace options enabled.

To answer the third research question (*How can companies foster the adoption of the digital workplace to manage the interface between the physical and digital workplace?*) the fourth article, which focuses on the digital space, is relevant. Knowledge work takes place digitally to a large extent. ICTs form the basis for the shift of work to the digital space. Digital work is largely responsible for the fact that knowledge work can be performed flexibly from anywhere. The resulting opportunity to work hybrid leads to interrelations between different microsystems, which are analyzed in the observation framework’s mesosystem, the digital space. Also, the scope of workplace management in hybrid working environments is



---

expanding beyond the physical boundaries of the office and toward the digital space. Thereby, companies play an essential role in promoting digital transformation and benefit from digital workplaces through their enabling role of locational distributed and hybrid knowledge work. Using an analysis influenced by the diffusion of innovation theory, the study examines the key influences that drive employees' intention to adopt the digital workplace. The aim is to find out how the broad mass of employees can be persuaded to use the digital workplace as multiple users increase the potential of the digital workplace, e.g., regrading communication and knowledge management. Measures to stimulate the adoption process are being considered at the individual, corporate, and social levels. The results show that individual (consumer innovativeness, technology commitment) and corporate aspects (technical infrastructure, corporate governance, corporate communication, and change management) are essential in adopting digital workplaces. By recognizing that external measures, such as corporate communication and change management, determine the intention to adopt organizations can influence the use of digital workplaces by employees. These results have implications for decision-makers in companies and workplace management. The expansion of technical infrastructure, corporate communication, and change management support digital transformation in companies because employees will increasingly use offerings like the digital workplace. Companies can also promote individual technology commitment among employees to increase their intention to adopt. However, corporate governance must act with caution with regard to the digital transformation as otherwise there is a risk of a negative impact on employees. Changes that are too rapid and unaccompanied measures or obligations deter employees from using the digital space to its full potential. Yet, if applied correctly, the digital workplace is an indispensable addition to physical workplaces and should be considered in strategic workplace management decisions. Therefore, the strategic management of the digital workplace can turn the challenges of distributed working into opportunities, e.g., through improved knowledge management or support for hybrid collaboration. In summary, this shows that the mesosystem of the digital space forms the basis for considering the overlaps between the various microsystems in which the employee moves during hybrid work.

The last study draws attention to the office workplace in hybrid working environments to answer the last research question (*How can companies react flexibly to changing requirements regarding their office space?*). The office is subject to increasing demands in terms of flexibility, as the home and third places also function as workplaces. As a result of hybrid working, adjustments to the office space are being discussed, as on the one hand a lower usage frequency occurs and on the other hand the role of the office is changing with regard

---

to the activities to be carried out there. Due to the highly dynamic nature of the working world and the additional workplaces, research and practice search for ways of adapting the second place. Thus, the microsystem level is considered again by proposing a framework for office space planning based on dynamic capabilities theory in the final article. Companies aimed toward strategic change can use dynamic capabilities as a source of competitive advantage and an explanation for how to respond to change. The procedure presented in the study allows companies to manage their office space as a more flexible resource by creating future capabilities in dynamic environments through a fast and individually developed space allocation for their workforce. As exemplarily shown through a case study and cluster analysis, different work types are identified among employees (all-rounders, project workers, desk workers, communicators, thinkers, and hands-on) and, based on their different shares of work modes (e.g., desk work, concentration, meeting), and different preferred workplaces, office space distribution is developed. To support a diverse workforce in working successfully, thereby increasing their potential to adapt to a changing business environment, the approach can be easily applied by companies to develop flexible workplace management with people-centered office space designs. The last study clarifies the structure of this thesis's observation framework, which is composed of the workplace ecosystem and the process flow of the mechanism of action of workplace management, by showing the connections between workplace management interventions, moderating factors, and the microsystem office.

In summary, the thesis comprehensively analyzes influences on the employee preferences and outcomes which effects for the physical organization of work in hybrid working environments. The five studies examine different systems of the workplace ecosystem to record the effects and interactions of the different physical and digital workplaces on employees. By applying several methods to capture consequences for workplace management and their strategy, the thesis shows approaches to efficiently deploy human and space resources to best support organizational outcomes.

## **7.2 Theoretical Contributions**

This thesis's findings contribute to several theories and various strands of literature, which are discussed below. The diverse results contribute primarily to CREM, business, critical leisure, innovation, and information systems research. Moreover, by applying a range of theories, the thesis contributes to the attempt to combine the results obtained in these different disciplines into a sufficient research stream on workplace management. This thesis thus supports the call of Appel-Meulenbroek and Danivska (2021) who emphasize that

---

research can benefit from a workplace management research stream while preserving the practical implications relevant to CREM.

Hybrid working environments present a highly complex topic because the modern workplace is busy, insecure, fluid, and fragmented (Bone, 2015). Complexity and uncertainty create insecurity, although knowledge helps promote the ability to act, especially in times of transformation. Therefore, hybrid working environments offer new areas of research regarding the workplace and its management in the interests of the global working population. This thesis is one of the first to address the need for a basic understanding of the physical organization of work in hybrid working environments in order to provide a basis on which successful strategies can be developed (Surma et al., 2021). With the ecosystemic approach based on Environmental Systems Theory, the thesis provides value for research through the workplace ecosystem framework. The developed framework supports researchers in gaining a better understanding of the employee development and interaction dynamics in hybrid working environments. By providing an overview of the workplaces to be considered in physical and digital space, the framework can be implemented for specific workplace management-related inquiry in hybrid working environments. Furthermore, the approach helps researchers examine the consequences of workplace management interventions across multiple systems involved whereby a comprehensive understanding of physical organization of work implications in hybrid working environments can be gained (Yang/Sandborn, 2021). In addition, the framework can be used to further decipher the previously unexplained mechanisms of success in the work of knowledge workers by examining holistically or detailing unknown and known issues concerning employee preferences and outcomes in hybrid working environments.

One of the most significant results is the relationship between employees' work success and workplace choice. During the relatively short time employees have been able to work in hybrid working environments, they already have clear preferences and make conscious decisions about what they consider when choosing a workplace and what makes their work successful. In addition, it has been possible to identify and incorporate factors from different specialist disciplines that predominantly influence both success and choice. Using a specially developed experiment the relationships between satisfaction, productivity, and workplace choice were examined. For this purpose, the theoretical understanding of Gregor's (2006) theoretical taxonomy, with particular emphasis on his Theory Type III (Theory of Predicting), is used to discover the previously unknown regularities. The transfer of this theory from the field of IS to the hybrid working context contributes to strengthening its areas of application. The varying degrees of relevance of the factors revealed demonstrate

---

the importance of investigating employee work success with the help of interdisciplinary research. In particular, further research is needed as the application of the chosen theory leaves parts of the analyzed system undiscovered.

The thesis's findings also contribute to a better understanding of the physical workplaces in hybrid working environments. By further developing the ED-R model in the context of working from home, the impact of the demands and resources of the workplace at home on employee outcomes is detected. The JD-R model, as one of the most popular models of work stress, is often used in organizational literature (Bakker/Demerouti, 2017). Yet, due to the low attention paid to the physical environment as a source of demands and resources, Roskams et al. (2021) extended the theory domain-specificity to the workplace environment, i.e., they developed the ED-R model. This thesis strengthens ED-R theory by confirming that equipment and facilities are environmental resources of the home workspace that are highly influential for employee performance. Further, the results show a positive influence of family-work interference on burnout. This influence indicates that family-work interference is an aspect of the workplace environment requiring sustained mental effort, resulting in psychological strain. Because the described symptoms of stress mirror the definition of environmental demands according to Roskams et al. (2021), this thesis proposes to classify family-work interference as a demand in the work from home context.

Another valuable implication for CREM and workplace management research comes from viewing office space as a dynamic capability. The new perspective on office space complements the prevailing understanding of company adaptability. The evidence-based approach of flexible workplace management develops DCT and offers an initial proposal for clarifying concrete organizational adaptation procedures (Güttel et al., 2012). As already described by Cabral and Winden (2022), the findings also indicate that the abilities of a company to sense, seize, and transform are not only located in the management of the organization, but also occur in close coordination with the employees as users. Employees and space should be included as key resources in the DC process of sensing, seizing, and transforming. The thesis thus contributes to further explaining workplace effectiveness by providing a better understanding of how a person-centered approach, focusing on the different performed ways of working, can be used to analyze how the physical office environment affects employees and should be optimally designed (Appel-Meulenbroek et al., 2018).

Beyond the office, the thesis also offers theoretical implications on the edge between critical leisure, tourism, and workplace research. Concerning research on third places, the definition and classification of workation presented in this thesis offer a starting point for

---

interdisciplinary research and further empirical studies. The taxonomy of workation extends the knowledge of shared workspaces and enables researchers of several fields to discuss the new workation phenomenon and its implications on various issues based on a uniform understanding.

In addition to the physical workplaces, the digital space must also be considered in the hybrid working environment. The thesis advances the understanding of digital workplace adoption. While research to date has been limited to the design and implementation phases of digital workplaces, the findings of this thesis provide insights into companies' influence during the use phase. Diffusion of Innovation Theory offers a strong and fundamental research approach for the regarded case of the introduction of a digital workplace in a company's workplace strategy and the adoption of the innovation by the employees (Röhrich, 2004; Manning et al., 1995). As such, the thesis extends a classical theory from innovation research to the field of CREM and workplace management. It becomes apparent that individual and corporate-level measures, such as technology commitment and change management, determine employees' intention to adopt the digital workplace.

In sum, the findings from the five articles expand the increasing body of knowledge on workplace management by covering physical and digital workplace systems in order to develop insights for designing the physical organization of work in hybrid working environments. Drawing on insights that arise from applying theories and methods of different disciplines to the context of the workplace ecosystem, each consideration in itself and the holistic perspective on the workplace ecosystem provides valuable theoretical contributions. The research context can explain why employees decide to work at a certain workplace, how the environmental and social systems influence their outcomes, and why companies have advantages in hybrid working environments when focusing on their employee preferences and adapting their workplace management strategy accordingly.

### **7.3 Implications for Practice**

Beyond the theoretical implications of this thesis, numerous results provide important practical implications relevant for corporate real estate and workplace managers, professionals of other disciplines, and policymakers not only in Germany, but also in other countries. Especially since the COVID-19 pandemic, companies have been faced with the challenge of deploying their human and spatial resources wisely in a dynamic and uncertain environment. Because knowledge workers have become more aware of their value to companies and the growing war for talent, employees' demands regarding the workplace are increasing and the pressure on companies to adapt grows (Kämpf-Dern/Will-Zocholl, 2022).

---

In order to survive in the changing business environment and to be successful as a company, workplace management has to design the necessary transformations toward more flexibility sensibly and take into account their employees' knowledge of what they do and how they do it (Dewulf/Van Meel, 2003; Weber/Gatersleben, 2022). In addition to the corporate office, companies have to consider third places and working from home, as each of those elements of new workplace strategies fulfill different requirements and needs of employees and companies (O'Rourke, 2021). Finally, the digital space has also to be concluded in the considerations, as a basic prerequisite for hybrid working environments.

Interest in the physical organization of work goes far beyond those responsible in companies, CREM, and workplace management. Since the experience of working from home during the COVID-19 pandemic, society, politicians, and knowledge workers have been participating in public debates about the organization and rights regarding hybrid work, which makes it clear that the topic is of far-reaching relevance. Nevertheless, how the rapidly developing trends will eventually play out is still being determined. The clear picture that is currently emerging is that a complete return to exclusively office-based or purely mobile work appears unrealistic. For this reason, companies must react dynamically not only so that they do not fall flat in the face of challenges in a volatile business environment and increasing employee demands, but also to gain economic advantage from these changes. The specific design and the optimum degree of flexibility in companies depends on a variety of factors and at the same time has a number of consequences so that each company should strive for an individual solution depending on their strategic business objectives, CREM strategy, and their workforce. To date, a high degree of user orientation still accounts as an innovation and has yet to reach the real estate industry as a whole (Vischer, 2011). To further support this transition to more innovation-based solutions, convincing research results help raise awareness that space can support the workforce and improve performance when usability and employee needs are considered.

With respect to flexibility in hybrid working environments, the necessary measures include giving employees the freedom to choose their workplace autonomously. This measure can lead to tremendous work success at the level of the individual employee as it is assumed that having the privilege of choosing the preferred workplace within the workplace ecosystem is based on individual-level engagement and intrinsic motivation (Spivack/Milosevic, 2018; Surma et al., 2021). There are also advantages for the company regarding employer branding, employee recruitment, and retention because, as the study results show, the risk of resignation is around 25% if flexible working is not permitted (Pfnür et al., 2023). However, especially at the team level, it is vital to ensure that spatial distribution and hybrid

---

collaboration do not lead to performance loss. Processes such as knowledge or employee management must not also suffer due to hybrid work. Therefore, such processes should be supported by further training opportunities to learn new skills and abilities. Furthermore, corporates must transform their offices, as the hybrid working environment impacts capacity utilization and the activities employees perform there. For example, introducing a desk-sharing policy or adjusting an existing sharing ratio can be considered instead of providing an individual workstation for each employee. However, care must be taken to avoid overloading or further usage frequency reductions because both can restrict success. Office space must be seen as a dynamic resource to react flexibly to changing requirements. This also means that the various activities that need to be carried out in the office by the diverse workforce can all be performed to a sufficient extent and, e.g., that space is provided not only for communication, but also for concentrated individual work or hybrid collaboration as required.

This insight is closely connected to another practical contribution. Future workplace strategies should consider workplaces outside the corporate boundaries. In addition to the office, working from home or anywhere (e.g., workations) can help achieve maximum success at the level of the individual employee, as everyone can work where they want and are most satisfied and productive. For some employees working from workplaces outside the office can lead to creative and innovative spill-over effects and improve work-life balance (Lukoschek/Stock-Homburg, 2021; Pfnür et al., 2023). A successful and healthy workforce is not only crucial for companies but also offers economic and social benefits for the economy as a whole. Overall, for workplace managers, the knowledge gained from this thesis allows to no longer just make retrospective decisions about new spaces and reproduce already-known workplace concepts but use the insights about the complex interrelationships in the workplace ecosystem to break new ground in workplace strategy, whereby human and space resources are efficiently deployed.

A further implication arises with respect to the interface between HRM, IT, and CREM. Essential for workplace management to succeed in hybrid working environments is the inclusion of a corporate culture geared to the new way of working. Coordination and collaboration between CREM and HR departments must be successful for hybrid collaboration to succeed and for aspects such as employee retention not to suffer. Business leaders and decision-makers also make a fundamental contribution to cooperation of divisions by setting clear and uniform goals for the hybrid work strategy and policy, which can be adjusted dynamically, if necessary, but still demonstrate a certain consistency and predictability. Integrating the digital space into the workplace strategy by implementing and

---

actively supporting a digital workplace increases the need for closer integration between CREM and IT. A close collaboration of the two departments is necessary so that hybrid collaboration is successful, and that space and technology for hybrid teamwork are available in the office. For example, in the case of activity-based office concepts, it needs to be possible to work easily with the available and individual technology at each workspace even if there are frequent changes within the office. In addition, for the IT and IS communities there are also implications for the development and design of ICT systems. For hybrid working environments to function effectively, companies and users depend on constantly developed and adapted ICTs to new requirements. Functioning IS are what make digital work successful. Especially promoting concentrated work and supporting the adequate performance of different activities, system design can develop tools that enable better hybrid work.

From another perspective, the thesis offers new implications for the tourism sector and hotel industry as well as city and regional planning. The increased distribution of third places leads to common areas of activity for different sections and stakeholders. Workation not only contributes to the field of CREM but is also seen as promising for the further development of tourism concepts and urban and rural planning (Wolf, 2016; Wiranatha et al., 2020; Lietzau/Puhe, 2021). On the one hand, an increase in demand for workation can help integrate remote areas more strongly into tourism or to promote rural coworking space concepts in combination with accommodation offers. While this possibility can also be particularly beneficial for areas with seasonally fluctuating tourism offers, new concepts are also becoming interesting for cities due to the increasing work in third places. There is already a discussion about whether companies are more attracted to 15-minute cities or districts by the emergence of the workplace ecosystem. Such concepts aim to ensure that residents of a city or neighborhood can reach the most important day-to-day amenities in a maximum of 15 minutes. For companies and their workplace strategy, locating in such a regional concept can bring advantages as their existing offices would be expanded with external services (McLaurin, 2022). The diverse points of contact between offices and regional planning issues make urban and regional planning also affected actors of this thesis. Furthermore, there are also a few implications for policymakers. Regulations can be initiated and updated to support and improve safe and healthy hybrid working for companies and employees. Furthermore, actors in the political process should consider possible social imbalances arising from the fact that primarily knowledge workers can work in a hybrid setup, which is denied to many other occupational groups. It is up to policymakers and companies to act and help compensate for this imbalance through new approaches.



---

Finally, the dissertation also provides important implications for the employees themselves. The study results help employees to understand which influence different workplaces have on their satisfaction, health and productivity. Without having to rely solely on their gut feeling, employees can transfer the findings to their individual situation and use them to find the workplace that best supports them in their work. Depending on their preferences and circumstances, employees should be motivated to use possible flexibility and autonomy when choosing their workplace or to demand it in coordination with the company to achieve their best possible outcomes. In addition to the physical places, employees should be willing to actively use digital workplaces and respond to company support, e.g., training. The extended workplace possibilities of a workplace strategy in hybrid working environments have advantages for employees but also require a certain degree of initiative and honesty to help develop structures and routines that are individually suitable and necessary for team and company success.

In conclusion, the workplace ecosystem, with the provision of work beyond the office, has implications for various fields and practitioners. To achieve success at all levels—society, companies, teams, and employees—and to leverage the potential of hybrid working environments, arising challenges must be met collectively.

#### **7.4 Limitations and Future Research**

This thesis has some limitations, which provide starting points for further research. While the study-specific limitations are already discussed at the end of each article, the following overarching limitations are subdivided according to content and methodological limitations.

The use of Bronfenbrenner's ecosystem approach for workplace management research demonstrates a starting point rather than the final step. The thesis is limited in content because it considers only some key connections between physical and digital systems of the workplace ecosystem. Although this approach means that initial results on the interaction of the workplaces can already be derived, and these relationships will remain central in research, the dynamic model proposed in this thesis will change through continuous developments in theory and practice, through possible changes in society (macrosystem), and through time (chronosystem). Therefore, future work can offer added value, e.g., by including other or more system levels of the workplace ecosystem simultaneously to compare further effects in hybrid working environments. One way to analyze the dynamic and changing life situations over time could be to work with longitudinal data in future research.

Furthermore, flexible working outside the office is understood to mean working from anywhere. In reality, however, legal regulations limit the manner and duration of work to a certain extent, e.g., in foreign countries. Further research should shed light on the resulting

---

effects on employee outcomes, and consequences for companies' physical organization of work in hybrid working environments due to insurance or tax aspects. Considering legal conditions is highly relevant and provides a starting point for additional studies.

Methodologically, the data used for most analyses is quantitative and derived from crowdsourcing platforms. Clickworker and MTurk allow for the generation of fast and reliable responses (Brawley/Pury, 2016; Lutz, 2016; Follmer et al., 2017). However, more research is needed on whether responses yield comparable quality to responses obtained from more traditional sampling methods. The choice of distributing the survey via these sampling platforms was informed by the increasing popularity in scientific studies based on evidence of clickworker to be valuable for empirical research (Müller/Albrecht, 2019; Gottschewski et al., 2022; Hansen et al., 2023). Nevertheless, potential biases are another weak point associated with questionnaire-derived data. A common method or response bias might occur, especially when using cross-sectional data. A possible attempt for further studies could be to measure the dependent and independent variables in two different survey waves. Longitudinal data can reduce the risk of common method and response biases due to the different points in time (Ployhart/Vandenberg, 2010; Ployhart/Ward, 2011).

Items were derived from existing survey instruments whenever possible to reach a higher explanatory value due to their validity. However, some of the articles followed explorative research aims and scales had to be adopted and extended. Sometimes, pre-tests were carried out to compensate for the missing psychometric test and improve the quality of the data. Still, the surveys included self-report measures. Outcomes, e.g., productivity, represent results from perceived productivity variables because the output of knowledge work is hard to quantify (Bosch-Sijtsema et al., 2009; Bergsten et al., 2021). Although this approach has been repeatedly criticized in research (e.g., Weber, 2019), there is no best-proven alternative against which these measures can be compared (Lucas, 2018) and it is advantageous that perceived productivity measures additionally capture qualitative aspects of the input (Haapakangas et al., 2018).

The results of the first study are based on an experimental approach whereby two limitations arise. First, the ranking received for the determining factors is limited to the aspects considered in the BW scaling experiment and only the relative importance of these aspects is represented; second, the sample was relatively small. The sample size should be increased in further studies and additional factors might be included.

Finally, articles three and five used case studies. With the awareness that a single-case study alone, especially with a small sample size, cannot generate completely generalizable

---

findings, it nevertheless makes a valuable contribution to theory development (Fiss, 2009). The decision for this explorative research strategy is based on their ability to discover and explore interactions between strategy, structure, and processes by studying corporate objects in a specific real-life situation (Morgan, 2012; Yin, 2014). However, caution is required here in particular, as the representativeness of the results is limited. Follow-up studies can be used to verify the results obtained.

In conclusion, this cumulative doctoral thesis has addressed the understanding and management of hybrid working environments with special consideration of employee preferences and outcomes and provides answers to how the physical organization of work can be designed. In reaction to the transformation of the working world and the war for talent, as well as to sustain in a volatile environment, companies must deploy resources efficiently so that the workplace can be positioned to improve human resources. The thesis thus contributes to workplace management research, offers useful insights for practice, and, by providing a framework for the workplace ecosystem, opens up further discussions on hybrid working environments.

---

---

## References

---

- Alarcon, G. M. (2011). A meta-analysis of burnout with job demands, resources, and attitudes. *Journal of Vocational Behavior*, 79(2), 549–562.  
<https://doi.org/10.1016/j.jvb.2011.03.007>
- Aldiana (2022). *ClubOffice by Aldiana*. <https://www.aldiana.com/de-de/cluboffice>
- Alipour, J. V., Falck, O., & Schüller, S. (2020). Homeoffice während der Pandemie und die Implikationen für eine Zeit nach der Krise. *Ifo Schnelldienst*, 73(7), 30–36.
- Allen, T. D. (2001). Family-Supportive Work Environments: The Role of Organizational Perceptions. *Journal of Vocational Behavior*, 58(3), 414–435.  
<https://doi.org/10.1006/jvbe.2000.1774>
- Allen, T. D., Johnson, R. C., Kiburz, K. M., & Shockley, K. M. (2013). Work–Family Conflict and Flexible Work Arrangements: Deconstructing Flexibility. *Personnel Psychology*, 66(2), 345–376. <https://doi.org/10.1111/peps.12012>
- Allgäu (2022). *Hoteloffice - Homeoffice im Hotel*. <https://standort.allgaeu.de/hoteloffice-homeoffice-im-hotel-1>
- Altawallbeh, M., Thiam, W., Alshourah, S., & Fong, S. F. (2015). Do the Instructors Differ in Their Behavioral Intention to Adopt E-Learning Based on Age, Gender, and Internet Experience? *Journal of Education and Practice*, 6(18), 41–50.
- Altman, E. J., Schwartz, J., Kiron, D., Jones, R., & Kearns-Manolatos, D. (2021). Workforce Ecosystems: A New Strategic Approach to the Future of Work. *MIT Sloan Management Review*, 62(2), 1–4.
- Amérigo, M., & Aragonés, J. I. (1990). Residential satisfaction in council housing. *Journal of Environmental Psychology*, 10(4), 313–325. [https://doi.org/10.1016/S0272-4944\(05\)80031-3](https://doi.org/10.1016/S0272-4944(05)80031-3)
- Appel-Meulenbroek, R., Clippard, M., & Pfnür, A. (2018). The effectiveness of physical office environments for employee outcomes. *Journal of Corporate Real Estate*, 20(1), 56–80. <https://doi.org/10.1108/JCRE-04-2017-0012>
- Appel-Meulenbroek, R., Colenberg, S., & Danivska, V. (2021). Towards an interdisciplinary employee-workplace alignment theory. In R. Appel-Meulenbroek & V. Danivska (Eds.), *A Handbook of Theories on Designing Alignment between People and the Office Environment* (pp. 272–288). Routledge.
- Appel-Meulenbroek, R. & Danivska, V. (2021). Gathering theories to explain employee-workplace alignment from an interdisciplinary viewpoint. In R. Appel-Meulenbroek & V. Danivska (Eds.), *A Handbook of Theories on Designing Alignment between People and the Office Environment* (pp. 1–13). Routledge.
- Appel-Meulenbroek, R., Groenen, P., & Janssen, I. (2011). An end-user's perspective on activity-based office concepts. *Journal of Corporate Real Estate*, 13(2), 122–135.  
<https://doi.org/10.1108/14630011111136830>
- Appel-Meulenbroek, R., Kemperman, A., van de Water, A., Weijs-Perrée, M., & Verhaegh, J. (2022). How to attract employees back to the office? A stated choice study on hybrid working preferences. *Journal of Environmental Psychology*, 81(101784), 1–12. <https://doi.org/10.1016/j.jenvp.2022.101784>
- Appel-Meulenbroek, R., Vries, B. de, & Weggeman, M. (2013). *How CREM Can Measure Added Value of Building Design: Knowledge Sharing in Research Buildings* (133-151). Book of Proceedings/20th Annual Conference of the European Real Estate Society.
- Arabandi, B. (2011). Globalization, Flexibility and New Workplace Culture in the United States and India. *Sociology Compass*, 5(7), 525–539.  
<https://doi.org/10.1111/j.1751-9020.2011.00389.x>

- Araghinavaz, S. (2003). *Cultuur en kantoor, een onderzoek naar de relatie tussen landscultuur, beleving en de werkplek [Culture and the office, an inquiry into the relationship between national culture, experience and workplaces]* [Master Thesis]. University of Technology, Delft.
- Armitage, L. A., & Nassor Amar, J. H. (2021). Person-Environment Fit Theory. Application to the Design of Work Environments. In R. Appel-Meulenbroek & V. Danivska (Eds.), *A Handbook of Theories on Designing Alignment between People and the Office Environment* (pp. 14–26). Routledge.
- Aroles, J., Cecez-Kecmanovic, D., Dale, K., Kingma, S. F., & Mitev, N. (2021). New ways of working (NWW): Workplace transformation in the digital age. *Information and Organization*, 31(4), 100378. <https://doi.org/10.1016/j.infoandorg.2021.100378>
- Aroles, J., Granter, E., & Vaujany, F.-X. de (2020). ‘Becoming mainstream’: the professionalisation and corporatisation of digital nomadism. *New Technol Work Employ*, 35(1), 114–129. <https://doi.org/10.1111/ntwe.12158>
- Aronoff, S., & Kaplan, A. G. (1995). *Total workplace performance: Rethinking the office environment by Stanley Aronoff & Audrey G. Kaplan*. Ontario, Canada; WDL Publications.
- Arts, J. W., Frambach, R. T., & Bijmolt, T. H. (2011). Generalizations on consumer innovation adoption: A meta-analysis on drivers of intention and behavior. *International Journal of Research in Marketing*, 28(2), 134–144. <https://doi.org/10.1016/j.ijresmar.2010.11.002>
- Arundell, L., Sudholz, B., Teychenne, M., Salmon, J., Hayward, B., Healy, G. N., & Timperio, A. (2018). The Impact of Activity Based Working (ABW) on Workplace Activity, Eating Behaviours, Productivity, and Satisfaction. *International Journal of Environmental Research and Public Health*, 15(5), 1005. <https://doi.org/10.3390/ijerph15051005>
- Asatiani, A., & Norström, L. (2023). Information systems for sustainable remote workplaces. *The Journal of Strategic Information Systems*, 32(3), 101789. <https://doi.org/10.1016/j.jsis.2023.101789>
- Attaran, M., Attaran, S., & Kirkland, D. (2019). The Need for Digital Workplace. *International Journal of Enterprise Information Systems*, 15(1), 1–23. <https://doi.org/10.4018/IJEIS.2019010101>
- Babapour, M., Karlsson, M., & Osvalder, A.-L. (2018). Appropriation of an Activity-based Flexible Office in daily work. *Nordic Journal of Working Life Studies*, 8(S3), 71–94. <https://doi.org/10.18291/njwls.v8iS3.105277>
- Backhaus, K., Erichson, B., Plinke, W., & Weiber, R. (2016). *Multivariate Analysemethoden*. Springer Berlin Heidelberg. <https://doi.org/10.1007/978-3-662-46076-4>
- Backhaus, K., Erichson, B., Gensler, S., Weiber, R., & Weiber, T. (2021). *Multivariate Analysis: An Application-Oriented Introduction*. Springer Fachmedien Wiesbaden. <https://doi.org/10.1007/978-3-658-32589-3>
- Bae, J., Kwon, J. M., & Jai, T. (2016). Organisational Commitment and Employees Intention to Adopt New Technologies. *Journal of Hospitality Application and Research*, 11(1).
- Bähr, U., Biemann, J., Hentschel, P., Lietzau, J., & Bertelsmann Stiftung. (2020). *Coworking im ländlichen Raum*. <https://doi.org/10.11586/2020076>
- Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: state of the art. *Journal of Managerial Psychology*, 22(3), 309–328. <https://doi.org/10.1108/02683940710733115>

- 
- Bakker, A. B., & Demerouti, E. (2017). Job demands-resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology, 22*(3), 273–285. <https://doi.org/10.1037/ocp0000056>
- Bakker, A. B., Demerouti, E., Boer, E. de, & Schaufeli, W. B. (2003). Job demands and job resources as predictors of absence duration and frequency. *Journal of Vocational Behavior, 62*(2), 341–356. [https://doi.org/10.1016/S0001-8791\(02\)00030-1](https://doi.org/10.1016/S0001-8791(02)00030-1)
- Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014). Burnout and Work Engagement: The JD–R Approach. *Annual Review of Organizational Psychology and Organizational Behavior, 1*(1), 389–411. <https://doi.org/10.1146/annurev-orgpsych-031413-091235>
- Bal, P. M., & Izak, M. (2021). Paradigms of Flexibility: A Systematic Review of Research on Workplace Flexibility. *European Management Review, 18*(1), 37–50. <https://doi.org/10.1111/emre.12423>
- Baptista, J., Stein, M.-K., Klein, S., Watson-Manheim, M. B., & Lee, J. (2020). Digital work and organisational transformation: Emergent Digital/Human work configurations in modern organisations. *The Journal of Strategic Information Systems, 29*(2), 101618. <https://doi.org/10.1016/j.jsis.2020.101618>
- Barbour, N., Menon, N., & Mannering, F. (2021). A statistical assessment of work-from-home participation during different stages of the COVID-19 pandemic. *Transportation Research Interdisciplinary Perspectives, 11*, 100441. <https://doi.org/10.1016/j.trip.2021.100441>
- Barrero, J. M., Bloom, N., & Davis, S. (2021). *Why Working from Home Will Stick*. <https://doi.org/10.3386/w28731>
- Barreto, I. (2010). Dynamic Capabilities: A Review of Past Research and an Agenda for the Future. *Journal of Management, 36*(1), 256–280. <https://doi.org/10.1177/0149206309350776>
- Bartels, J., & Reinders, M. J. (2011). Consumer innovativeness and its correlates: A propositional inventory for future research. *Journal of Business Research, 64*(6), 601–609. <https://doi.org/10.1016/j.jbusres.2010.05.002>
- Baruch, Y. (2000). Teleworking: benefits and pitfalls as perceived by professionals and managers. *New Technology, Work and Employment, 15*(1), 34–49. <https://doi.org/10.1111/1468-005X.00063>
- Baruch, Y., & King Joan Yuen, Y. (2000). Inclination to opt for teleworking. *International Journal of Manpower, 21*(7), 521–539. <https://doi.org/10.1108/01437720010378980>
- Baruch, Y., & Nicholson, N. (1997). Home, Sweet Work: Requirements for Effective Home Working. *Journal of General Management, 23*(2), 15–30. <https://doi.org/10.1177/030630709702300202>
- Baruch-Feldman, C., Brondolo, E., Ben-Dayana, D., & Schwartz, J. (2002). Sources of social support and burnout, job satisfaction, and productivity. *Journal of Occupational Health Psychology, 7*(1), 84–93. <https://doi.org/10.1037//1076-8998.7.1.84>
- Bauer, S. C., & Silver, L. (2018). The impact of job isolation on new principals' sense of efficacy, job satisfaction, burnout and persistence. *Journal of Educational Administration, 56*(3), 315–331. <https://doi.org/10.1108/JEA-07-2017-0078>
- Bauer, W., Stiefel, K.-P., & Rief, S. (Eds.). (2017). *Coworking - Innovationstreiber für Unternehmen: = Coworking - driver of innovation for companies*. Fraunhofer Verlag. <http://www.bookshop.fraunhofer.de/buch/coworking-innovationstreiber-fuer-unternehmen/248587>

- Baumgartner, H., & Steenkamp, J.-B. E. (2001). Response Styles in Marketing Research: A Cross-National Investigation. *Journal of Marketing Research*, 38(2), 143–156. <https://doi.org/10.1509/jmkr.38.2.143.18840>
- Becker, F. (1990). *The total workplace: Facilities management and the elastic organization*. Van Nostrand Reinhold.
- Beechler, S., & Woodward, I. C. (2009). The global “war for talent”. *Journal of International Management*, 15(3), 273–285. <https://doi.org/10.1016/j.intman.2009.01.002>
- Behrens, K., Kichko, S., & Thisse, J.-F. (2024). Working from home: Too much of a good thing? *Regional Science and Urban Economics*, 105, 103990. <https://doi.org/10.1016/j.regsciurbeco.2024.103990>
- Beisecker, S., Schlereth, C., & Hein, S. (2024). Shades of Fake News: How Fallacies Influence Consumers’ Perception. *European Journal of Information Systems*, 33(1), 41–60. <https://doi.org/10.1080/0960085X.2022.2110000>
- Beltrán-Martín, I., & Roca-Puig, V. (2013). Promoting Employee Flexibility Through HR Practices. *Human Resource Management*, 52(5), 645–674. <https://doi.org/10.1002/hrm.21556>
- Belzunegui-Eraso, A., & Erro-Garcés, A. (2020). Teleworking in the Context of the Covid-19 Crisis. *Sustainability*, 12(9), 3662. <https://doi.org/10.3390/su12093662>
- Bentley, T. A., Caponecchia, C., Onnis, L.-A., Brunetto, Y., Farr-Wharton, B., Cattani, M., Neto, A., & Vassiley, A. (2023). A systems model for the design of occupational health and safety management systems inclusive of work-from-home arrangements. *Applied Ergonomics*, 109, 103966. <https://doi.org/10.1016/j.apergo.2023.103966>
- Bergsten, E. L., Haapakangas, A., Larsson, J., Jahncke, H., & Hallman, D. M. (2021). Effects of relocation to activity-based workplaces on perceived productivity: Importance of change-oriented leadership. *Applied Ergonomics*, 93, 103348. <https://doi.org/10.1016/j.apergo.2020.103348>
- Bernstein, J. H. (2015). Transdisciplinarity: A review of its origins, development, and current issues. *Journal of Research Practice*, 11(1), 1–20. <http://jrp.icaap.org/index.php/jrp/article/view/510/436>
- Bleady, Abbas, Abdel Hafiez, & Siddig B. Ibrahim (2018). Dynamic capabilities theory: pinning down a shifting concept. *Academy of Accounting and Financial Studies Journal*, 2(1), 1–16.
- Blok, M., Groenesteijn, L., van den Berg, C., & Vink, P. (2011). New Ways of Working: A Proposed Framework and Literature Review. In M. M. Robertson (Ed.), *Lecture Notes in Computer Science. Ergonomics and Health Aspects of Work with Computers* (Vol. 6779, pp. 3–12). Springer Berlin Heidelberg. [https://doi.org/10.1007/978-3-642-21716-6\\_1](https://doi.org/10.1007/978-3-642-21716-6_1)
- Bloom, N., Liang, J., Roberts, J., & Ying, Z. J. (2015). Does Working from Home Work? Evidence from a Chinese Experiment. *The Quarterly Journal of Economics*, 130(1), 165–218. <https://doi.org/10.1093/qje/qju032>
- BMFSFJ (2017). *Digitale Vereinbarkeit. Home-Office und mobiles Arbeiten – eine Toolbox für Unternehmen und Beschäftigte mit Familienaufgaben*. <https://www.bmfsfj.de/resource/blob/118752/909122f7ce343f454f3ff5c37e482a5c/digitale-vereinbarkeit-home-office-und-mobiles-arbeiten-eine-toolbox-fuer-unternehmen-und-beschaefigte-mit-familienaufgaben-data.pdf>
- BMJ (2020). Arbeitszeitgesetz (ArbZG). [https://www.gesetze-im-internet.de/arbzg/BJNR117100994.html#:~:text=%C2%A7%203%20Arbeitszeit%](https://www.gesetze-im-internet.de/arbzg/BJNR117100994.html#:~:text=%C2%A7%203%20Arbeitszeit%20)

- 20der%20Arbeitnehmer,Stunden%20werkt%C3%A4glich%20nicht%20%C3%BCberschritten%20werden
- Bocks, B. (2021). Veränderungen brauchen Zeit. *Bankmagazin*, 70(1), 26–29. <https://doi.org/10.1007/s35127-020-0664-0>
- Bone, K. D. (2015). The Bioecological Model: applications in holistic workplace well-being management. *International Journal of Workplace Health Management*, 8(4), 256–271. <https://doi.org/10.1108/IJWHM-04-2014-0010>
- Bosch-Sijtsema, P. M., Ruohomäki, V., & Vartiainen, M. (2009). Knowledge work productivity in distributed teams. *Journal of Knowledge Management*, 13(6), 533–546. <https://doi.org/10.1108/13673270910997178>
- Bose, J. (2001). Nonresponse Bias Analyses at the National Center for Education Statistics. Proceedings of Statistics Canada International Symposium Series.
- Bouée, C.-E. (2015). Digital transformation doesn't have to leave employees behind. *Harvard Business Review*. <https://hbr.org/2015/09/digital-transformation-doesnt-have-to-leave-employees-behind>
- Bouncken, R. B., & Gantert, T. M. (2021). Hybride multilokale Arbeit: „New Work“ Potenziale im Remote-, Co-working- und KMU-Office. *ZfKE – Zeitschrift Für KMU Und Entrepreneurship*, 69(1), 1–16. <https://doi.org/10.3790/zfke.69.1.1>
- Bowling, N. A., & Hammond, G. D. (2008). A meta-analytic examination of the construct validity of the Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale. *Journal of Vocational Behavior*, 73(1), 63–77. <https://doi.org/10.1016/j.jvb.2008.01.004>
- Bratnicka-Myśliwiec, K., Dyduch, W., & Bratnicki, M. (2019). Theoretical foundations of dynamic capabilities measurement: A multi-logic approach. *Przeгляд Organizacji*, 4–13. <https://doi.org/10.33141/po.2019.12.01>
- Brawley, A. M., & Pury, C. L. (2016). Work experiences on MTurk: Job satisfaction, turnover, and information sharing. *Computers in Human Behavior*, 54, 531–546. <https://doi.org/10.1016/j.chb.2015.08.031>
- Brayfield, A. H., & Crockett, W. H. (1955). Employee attitudes and employee performance. *Psychological Bulletin*, 52(5), 396–424. <https://doi.org/10.1037/h0045899>
- Brinkerhoff, R. O., & Dressler, D. E. (1990). *Productivity measurement: A guide for managers and evaluators* (6. print). *Applied social research methods series: Vol. 19*. Sage.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- Bronfenbrenner, U. (2000). Ecological systems theory. In A. Kazdin (Ed.), *Encyclopedia of Psychology* (3rd ed., pp. 129–133). Oxford University Press.
- Broszat, I. (2021). So ermöglichen diese fünf Unternehmen mobiles Arbeiten aus dem Ausland. <https://www.businessinsider.de/karriere/workation-remote-arbeiten-im-ausland-so-machen-es-5-unternehmen-a/>
- Brust, L., Hartwich, N. J., Breidbach, C., & Antons, D. (2022). How Deep is your Work? The Day-to-Day Effects of Information and Communication Technology Use on Deep Work of Employees. *ICIS 2022 Proceedings*, 13. [https://aisel.aisnet.org/icis2022/is\\_futureofwork/is\\_futureofwork/13](https://aisel.aisnet.org/icis2022/is_futureofwork/is_futureofwork/13)
- Brynjolfsson, E., Horton, J., Ozimek, A., Rock, D., Sharma, G., & TuYe, H.-Y. (2020). *COVID-19 and Remote Work: An Early Look at US Data* (NBER Working Paper Series No. w27344). <https://doi.org/10.3386/w27344>
- Budie, B., Appel-Meulenbroek, R., Kemperman, A., & Weijs-Perree, M. (2018). Employee satisfaction with the physical work environment: the importance of a need based



- approach. *International Journal of Strategic Property Management*, 23(1), 36–49.  
<https://doi.org/10.3846/ijspm.2019.6372>
- Bueno, S., Rodríguez-Baltanás, G., & Gallego, M. D. (2018). Coworking spaces: a new way of achieving productivity. *Journal of Facilities Management*, 16(4), 452–466.  
<https://doi.org/10.1108/JFM-01-2018-0006>
- Bullinger, H.-J. (1994). *Einführung in das Technologiemanagement: Modelle, Methoden, Praxisbeispiele*. Vieweg+Teubner Verlag. <https://doi.org/10.1007/978-3-322-84858-1>
- Cabral, V., & van Winden, W. (2022). The reaction of coworking spaces to the COVID-19 pandemic. A dynamic capabilities perspective. *Service Business*, 16(2), 257–281.  
<https://doi.org/10.1007/s11628-022-00489-6>
- Cammann, C., Fichman, M., Jenkins, G. D., & Klesh, J. (1979). *The Michigan Organizational Assessment Questionnaire* (Unpublished Manuscript). University of Michigan.
- Cammann, C., Fichman, M., Jenkins, G. D., & Klesh, J. (1983). Michigan Organizational Assessment Questionnaire. In S. E. Seashore, E. E. Lawler III, P. H. Mirvis, & C. Cammann (Eds.), *Assessing organizational change: A guide to methods, measures, and practices* (pp. 71–138). John Wiley & Sons Inc.
- Camp-Work (2022). *Endlich Camp-Reiselust statt Arbeitsfrust!* <https://camp-work.de/coworking-camper/>
- Candido, C., Thomas, L., Haddad, S., Zhang, F., Mackey, M., & Ye, W. (2018). Designing activity-based workspaces: satisfaction, productivity and physical activity. *Building Research & Information*, 47(3), 275–289.  
<https://doi.org/10.1080/09613218.2018.1476372>
- Carnevale, J. B., & Hatak, I. (2020). Employee adjustment and well-being in the era of COVID-19: Implications for human resource management. *Journal of Business Research*, 116, 183–187. <https://doi.org/10.1016/j.jbusres.2020.05.037>
- Carstensen, T. (2023). Zwischen Homeoffice, neuer Präsenz und Care. Die räumliche und digitale Neuordnung von Arbeit. *WSI-Mitteilungen*, 76(1), 3–9.  
<https://doi.org/10.5771/0342-300X-2023-1-3>
- Cascio, W. F. (2010). The Changing World of Work. In P. A. Linley (Ed.), *Oxford library of psychology. Oxford handbook of positive psychology and work* (pp. 13–25). Oxford University Press.
- Chatterjee, S., Chaudhuri, R., Vrontis, D., & Giovando, G. (2023). Digital workplace and organization performance: Moderating role of digital leadership capability. *Journal of Innovation & Knowledge*, 8(1), 100334.  
<https://doi.org/10.1016/j.jik.2023.100334>
- Cheah, J.-H., Thurasamy, R., Memon, M. A., Chuah, F., & Ting, H. (2020). Multigroup Analysis using SmartPLS: Step-by-Step Guidelines for Business Research. *Asian Journal of Business Research*, 10(3), 1–19. <https://doi.org/10.14707/ajbr.200087>
- Chen, C. (2013). Perceived risk, usage frequency of mobile banking services. *Managing Service Quality: An International Journal*, 23(5), 410–436.  
<https://doi.org/10.1108/MSQ-10-2012-0137>
- Chevtavaeva, E. (2021). Coworking and Coliving: The Attraction for Digital Nomad Tourists. In W. Wörndl, C. Koo, & J. L. Stienmetz (Eds.), *Information and Communication Technologies in Tourism 2021* (pp. 202–209). Springer International Publishing.  
[https://doi.org/10.1007/978-3-030-65785-7\\_17](https://doi.org/10.1007/978-3-030-65785-7_17)

- 
- Chevtava, E., & Denizci-Guillet, B. (2021). Digital nomads' lifestyles and coworkation. *Journal of Destination Marketing & Management*, 21, 100633. <https://doi.org/10.1016/j.jdmm.2021.100633>
- Chin, W. W. (1998). The Partial Least Squares Approach to Structural Equation Modeling. In G. A. Marcoulides (Ed.), *Quantitative methodology series. Modern methods for business research* (pp. 295–336). Lawrence Erlbaum.
- Chin, W. W. (2010). How to Write Up and Report PLS Analyses. In V. Esposito Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of Partial Least Squares* (pp. 655–690). Springer Berlin Heidelberg.
- Cho, H. Y., & Lee, H. J. (2022). Digital Transformation for Efficient Communication in the Workplace: Analyzing the Flow Coworking Tool. *Business Communication Research and Practice*, 5(1), 20–28.
- Choudhury, P., Khanna, T., Makridis, C. A., & Schirmann, K. (2022). Is Hybrid Work the Best of Both Worlds? Evidence from a Field Experiment. *Harvard Business School Working Paper*, 22-063.
- Christmann, B., & Glatte, T. (2022). Corporate Real Estate Management in der Transformation von Wirtschaft und Gesellschaft. In A. Pfnür, M. Eberhardt, & T. Herr (Eds.), *Transformation der Immobilienwirtschaft* (pp. 157–175). Springer Fachmedien Wiesbaden. [https://doi.org/10.1007/978-3-658-35363-6\\_9](https://doi.org/10.1007/978-3-658-35363-6_9)
- Chu, A. M. Y., Chan, T. W. C., & So, M. K. P. (2022). Learning from work-from-home issues during the COVID-19 pandemic: Balance speaks louder than words. *PloS One*, 17(1), e0261969. <https://doi.org/10.1371/journal.pone.0261969>
- Clickworker (2023). *Unsere Clickworker-Community*. <https://www.clickworker.de/unsere-crowd-die-clickworker/>
- Clifton, N., Füzi, A., & Loudon, G. (2022). Coworking in the digital economy: Context, motivations, and outcomes. *Futures*, 135, 102439. <https://doi.org/10.1016/j.futures.2019.102439>
- Clippard, M. S. (2020). *Steigerung der Immobilienperformance durch Nutzerorientierung. Möglichkeiten und Grenzen der Performancebewertung von Büroarbeitsplätzen* [Dissertation]. Technische Universität, Darmstadt.
- Clugston, M., Howell, J. P., & Dorfman, P. W. (2000). Examining organizational commitment across cultural dimensions. *Journal of Management*, 26, 5–30.
- Coboat (2022). *Coboat*. <https://www.coboat.org/>
- Coconat (2022). *Coconat: Community and Concentrated Work in Nature*. <https://coconat-space.com/de/>
- Cohen, G. L. (1992). Hard at work. *Perspectives on Labour and Income*, 4(1), 8–14.
- Cohen, D., & Crabtree, B. (2006). *Qualitative Research Guidelines Project*. <http://www.qualres.org/HomeEval-3664.html>
- Colbert, A., Yee, N., & George, G. (2016). 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>
- Contreras, F., Baykal, E., & Abid, G. (2020). E-Leadership and Teleworking in Times of COVID-19 and Beyond: What We Know and Where Do We Go. *Frontiers in Psychology*, 11, 590271. <https://doi.org/10.3389/fpsyg.2020.590271>
- Corley, K. G., & Dennis A. Gioia (2011). Building theory about theory building: what constitutes a theoretical contribution? *Academy of Management Review*, 36(1), 12–32. <https://doi.org/10.5465/AMR.2011.55662499>

- 
- Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology, 78*(1), 98–104. <https://doi.org/10.1037/0021-9010.78.1.98>
- Cowart, K. O., Fox, G. L., & Wilson, A. E. (2008). A structural look at consumer innovativeness and self-congruence in new product purchases. *Psychology & Marketing, 25*(12), 1111–1130. <https://doi.org/10.1002/mar.20256>
- CoworkationAlps (2022). *Coworkation Alps: Finde deine Work-Life-Mountain Balance*. <https://www.coworkation-alps.eu/>
- Croon, E. M. de, Sluiter, J. K., Kuijer, P. P. F. M., & Frings-Dresen, M. H. W. (2005). The effect of office concepts on worker health and performance: A systematic review of the literature. *Ergonomics, 48*(2), 119–134. <https://doi.org/10.1080/00140130512331319409>
- Cummins, R. A., & Gullone, E. (2000). *Why we should not use 5-point Likert scales: The case for subjective quality of life measurement* (Second International Conference on Quality of Life in Cities).
- Da Pereira, D. S., & Ribeiro, F. S. (2022). The Imminent Fall of Home-Office Workers During COVID-19 Outbreak: Suggestions to Cope With Burnout. *Frontiers in Psychology, 13*, 647418. <https://doi.org/10.3389/fpsyg.2022.647418>
- Dabson, A., & Pat McAllister. (2014). *The role of serviced offices in the corporate real estate supply chain* (Real Estate & Planning Working Papers). Henley Business School. <http://centaur.reading.ac.uk/35694/1/wp0114.pdf>
- Danivska, V. & Appel-Meulenbroek, R. (2021). Collecting theories to obtain an interdisciplinary understanding of workplace management. In R. Appel-Meulenbroek & V. Danivska (Eds.), *A Handbook of Management Theories and Models for Office Environments and Services* (pp. 1–12). Routledge.
- DasGupta, R., & Roy, A. (2023). Moderation impact of national culture on international firm's environmental, social, governance and financial performance. *International Journal of Intercultural Relations, 92*, 101749. <https://doi.org/10.1016/j.ijintrel.2022.101749>
- DeFilippis, E., Impink, S. M., Singell, M., Polzer, J. T., & Sadun, R. (2020). Collaborating During Coronavirus: The Impact of COVID-19 on the Nature of Work. *NBER Working Papers* (27612).
- Dejardin, M., Raposo, M. L., Ferreira, J. J., Fernandes, C. I., Veiga, P. M., & Farinha, L. (2023). The impact of dynamic capabilities on SME performance during COVID-19. *Review of Managerial Science, 17*(5), 1703–1729. <https://doi.org/10.1007/s11846-022-00569-x>
- Del Alonso-Almeida, M. M., Escat, M., & Perez-Encinas, A. (2021). Coworking Spaces: Threat or Opportunity to Face Crisis Situations. *Medical Science Forum, 4*(1), 23. <https://doi.org/10.3390/ECERPH-3-09099>
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86*(3), 499–512. <https://doi.org/10.1037/0021-9010.86.3.499>
- Dery, K., & MacCormick, J. (2012). Managing Mobile Technology: The Shift from Mobility to Connectivity. *MIS Quarterly Executive, 11*(4), 159–173. <https://aisel.aisnet.org/misqe/vol11/iss4/3>
- Dery, K., Sebastian, I. M., & van der Meulen, N. (2017). The digital workplace is key to digital innovation. *MIS Quarterly Executive, 16*(2), 135–152.
- DeSanctis, G. (1984). Attitudes toward telecommuting: Implications for work-at-home programs. *Information and Management, 7*(3), 133–139.

- 
- Destatis (2022). *Weekly working hours*.  
<https://www.destatis.de/DE/Themen/Arbeit/Arbeitsmarkt/Qualitaet-Arbeit/Dimension-3/woechentliche-arbeitszeitl.html>
- Destatis (2023a). *Labor force participation. Employed and employment rate by sex and age Results of the microcensus 2022*.  
<https://www.destatis.de/EN/Themes/Labour/Labour-Market/Employment/Tables/et-etq-2021.html>
- Destatis (2023b). *Rangfolge der Handelspartner im Außenhandel der Bundesrepublik Deutschland*.  
[https://www.destatis.de/DE/Themen/Wirtschaft/Aussenhandel/Tabellen/rangfolge-handelspartner.pdf?\\_\\_blob=publicationFile](https://www.destatis.de/DE/Themen/Wirtschaft/Aussenhandel/Tabellen/rangfolge-handelspartner.pdf?__blob=publicationFile)
- Dewa, C. S., Loong, D., Bonato, S., Thanh, N. X., & Jacobs, P. (2014). How does burnout affect physician productivity? A systematic literature review. *BMC Health Services Research*, 14, 325. <https://doi.org/10.1186/1472-6963-14-325>
- Dewulf, G. P. M. R., Krumm, P. J. M. M. & de Jonge, H. (2000). *Successful corporate real estate strategies*, Arko Publishers, Nieuwegein.
- Dewulf, G. P. M. R., & van Meel, J. (2003). Democracy in design? In R. Best, G. de Valence, & C. Langston (Eds.), *Workplace Strategies and Facilities Management: Building in Value* (1st ed.). Elsevier professional.
- Di Marino, M., Lilius, J., & Lapintie, K. (2018). New forms of multi-local working: identifying multi-locality in planning as well as public and private organizations' strategies in the Helsinki region. *European Planning Studies*, 26(10), 2015–2035. <https://doi.org/10.1080/09654313.2018.1504896>
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49(1), 71–75. [https://doi.org/10.1207/s15327752jpa4901\\_13](https://doi.org/10.1207/s15327752jpa4901_13)
- Ding, Y., & Ma, M. (2024). *Return-to-Office Mandates*. <https://ssrn.com/abstract=4675401>
- Dolce, P., Esposito Vinzi, V., & Lauro, C. (2017). Predictive Path Modeling Through PLS and Other Component-Based Approaches: Methodological Issues and Performance Evaluation. In H. Latan & R. Noonan (Eds.), *Partial Least Squares Path Modeling* (pp. 153–172). Springer International Publishing.
- Donthu, N., & Gustafsson, A. (2020). Effects of COVID-19 on business and research. *Journal of Business Research*, 117, 284–289. <https://doi.org/10.1016/j.jbusres.2020.06.008>
- Dubrin, A. J. (1991). Comparison of the Job Satisfaction and Productivity of Telecommuters versus in-House Employees: A Research Note on Work in Progress. *Psychological Reports*, 68(4), 1223–1234. <https://doi.org/10.2466/PRO.68.4.1223-1234>
- Dyer, W. G., & Wilkins, A. L. (1991). Better Stories, Not Better Constructs, to Generate Better Theory: A Rejoinder to Eisenhardt. *Academy of Management Review*, 16(3), 613–619. <https://doi.org/10.2307/258920>
- Earley, P. C., & Mosakowski, E. (2004). Toward culture intelligence: Turning cultural differences into a workplace advantage. *Academy of Management Perspectives*, 18(3), 151–157. <https://doi.org/10.5465/AME.2004.28561784>
- Edwards, J. R., & Shipp, A. J. (2007). The relationship between person-environment fit and outcomes: An integrative theoretical framework. In C. Ostroff & T. A. Judge (Eds.), *SIOP organizational frontier series. Perspectives on organizational fit* (First issued in paperback, pp. 209–258). Psychology Press Taylor & Francis Group.

- 
- Eisenhardt, K. M. (1989). Building Theories from Case Study Research. *Academy of Management Review*, 14(4), 532–550. <https://doi.org/10.2307/258557>
- Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: what are they? *Strategic Management Journal*, 21(10-11), 1105–1121. [https://doi.org/10.1002/1097-0266\(200010/11\)21:10/11<1105::AID-SMJ133>3.0.CO;2-E](https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E)
- El Sawy, O., Amsinck, H., Kraemmergaard, P., & Lerbech Vinther, A. (2016). How LEGO Built the Foundations and Enterprise Capabilities for Digital Leadership. *MIS Quarterly Executive*, 15(2), 141–166. <https://aisel.aisnet.org/misqe/vol15/iss2/5>
- Ellison Schriefer, A. (2005). Workplace strategy: What it is and why you should care. *Journal of Corporate Real Estate*, 7(3), 222–233. <https://doi.org/10.1108/14630010510631081>
- Engel, V., & Scharing, J. (2021). Etablierung eines Netzwerkes zu Coworkation im Alpenraum am Beispiel von CoworkationALPS. In S. Werther (Ed.), *Coworking als Revolution der Arbeitswelt* (pp. 171–183). Springer Berlin Heidelberg.
- Engelen, L., Chau, J., Young, S., Mackey, M., Jeyapalan, D., & Bauman, A. (2019). Is activity-based working impacting health, work performance and perceptions? A systematic review. *Building Research & Information*, 47(4), 468–479. <https://doi.org/10.1080/09613218.2018.1440958>
- European Commission (2023). *Digital Economy and Society Index (DESI) 2022*. <https://ec.europa.eu/newsroom/dae/redirection/document/88764>
- Federal Foreign Office (2023). *Germany and the USA: Bilateral relations*. [www.auswaertiges-amt.de/de/service/laender/usa-node/bilateral/204568](http://www.auswaertiges-amt.de/de/service/laender/usa-node/bilateral/204568)
- Federal Statistical Office (2021). *Arbeitskräfteerhebung*. <https://www.destatis.de/DE/Themen/Arbeit/Arbeitsmarkt/Qualitaet-Arbeit/Dimension-3/home-office.html>
- Fiebelkorn, L., & Dotous, O. (2022). *Workation und Homeoffice im Ausland: Was Arbeitgeber beachten müssen*. [https://www.haufe.de/personal/entgelt/homeoffice-im-ausland-was-arbeitgeber-wissen-muessen\\_78\\_536748.html](https://www.haufe.de/personal/entgelt/homeoffice-im-ausland-was-arbeitgeber-wissen-muessen_78_536748.html)
- Finn, A., & Louviere, J. J. (1992). Determining the Appropriate Response to Evidence of Public Concern: The Case of Food Safety. *Journal of Public Policy & Marketing*, 11(2), 12–25. <https://doi.org/10.1177/074391569201100202>
- Fiss, P. C. (2009). Case studies and the configurational analysis of organizational phenomena. In D. Byrne & Charles C. Ragin (Eds.), *The SAGE handbook of case-based methods* (pp. 424–440). Sage.
- Follmer, D. J., Sperling, R. A., & Suen, H. K. (2017). The Role of MTurk in Education Research: Advantages, Issues, and Future Directions. *Educational Researcher*, 46(6), 329–334. <https://doi.org/10.3102/0013189X17725519>
- Fonner, K. L., & Roloff, M. E. (2010). Why Teleworkers are More Satisfied with Their Jobs than are Office-Based Workers: When Less Contact is Beneficial. *Journal of Applied Communication Research*, 38(4), 336–361. <https://doi.org/10.1080/00909882.2010.513998>
- Fraja, G. de, Matheson, J., & Rockey, J. C. (2020). Zoomshock: The Geography and Local Labour Market Consequences of Working from Home. *SSRN Electronic Journal*. Advance online publication. <https://doi.org/10.2139/ssrn.3752977>
- Galovan, A. M., Fackrell, T., Buswell, L., Jones, B. L., Hill, E. J., & Carroll, S. J. (2010). The work-family interface in the United States and Singapore: Conflict across cultures. *Journal of Family Psychology*, 24(5), 646–656. <https://doi.org/10.1037/a0020832>

- 
- Garro-Abarca, V., Palos-Sanchez, P., & Aguayo-Camacho, M. (2021). Virtual Teams in Times of Pandemic: Factors That Influence Performance. *Frontiers in Psychology*, 12, 624637. <https://doi.org/10.3389/fpsyg.2021.624637>
- Gast, J., Werner, A., & Kraus, S. (2017). Antecedents of the small firm effect: the role of knowledge spillover and blocked mobility for employee entrepreneurial intentions. *International Entrepreneurship and Management Journal*, 13(1), 277–297. <https://doi.org/10.1007/s11365-016-0403-x>
- Gauger, F. (2021). *New Work Environments: The Economic Relevance of Flexible Office Space* [Dissertation]. Technical University Darmstadt.
- Gauger, F. (2023). *New Work Environments: The Economic Relevance of Flexible Office Space* (Zeitschrift für Immobilienwirtschaft Bodenpolitik und Wertermittlung Art.-Nr. 21800305).
- Gauger, F., Bachtal, Y., & Pfnür, A (2022a). Work experience from home: Hybrid work and the future of distributed work locations — a comparative empirical analysis between the US and Germany. *Corporate Real Estate Journal*, 11(3), 280–292.
- Gauger, F., & Pfnür, A (2019). Coworking Spaces: Arbeitsräume zur Initiierung von Netzwerken. *Zeitschrift Führung + Organisation: ZfO*, 89(1), 9–15.
- Gauger, F., Voll, K., & Pfnür, A (2020). *Corporate Coworking Spaces – Determinants of Work Satisfaction in Flexible Workspaces* (Future Workspaces. Proceedings of the Transdisciplinary Workplace Research (TWR) Conference 2020, TWR Network 174-189). [https://www.twrnetwork.org/wp-content/uploads/2020/11/TWR2020\\_Future\\_Workspaces\\_Ed2.pdf](https://www.twrnetwork.org/wp-content/uploads/2020/11/TWR2020_Future_Workspaces_Ed2.pdf)
- Gauger, F., Voll, K., & Pfnür, A (2022b). Corporate Coworking Spaces – Determinants of Work Satisfaction in Future Workspaces. *Die Unternehmung*, 76(1), 65–87. <https://doi.org/10.5771/0042-059X-2022-1>
- Gensler (2019). *Germany workplace survey 2019*. <https://www.gensler.com/gri/germany-workplace-survey-2019>
- Gerards, R., Grip, A. de, & Baudewijns, C. (2018). Do new ways of working increase work engagement? *Personnel Review*, 47(2), 517–534. <https://doi.org/10.1108/PR-02-2017-0050>
- German Missions in the United States (2023). *Deutschland und die Vereinigten Staaten von Amerika*. <https://www.germany.info/us-de/bilateral/923422>
- Gerpott, T. J. (2005). *Strategisches Technologie- und Innovationsmanagement* (2nd edited and extended ed.). *Sammlung Poeschel: Vol. 162*. Schäffer-Poeschel.
- Gibson, V. (2003). Flexible working needs flexible space? *Journal of Property Investment & Finance*, 21(1), 12–22. <https://doi.org/10.1108/14635780310468275>
- Gigauri, I. (2020). Effects of Covid-19 on Human Resource Management from the Perspective of Digitalization and Work-Life-Balance. *International Journal of Innovative Technologies in Economy*, 4(31), 1–10. [https://doi.org/10.31435/rsglobal\\_ijite/30092020/7148](https://doi.org/10.31435/rsglobal_ijite/30092020/7148)
- Gillen, N. (2019). *Future Office: Next-Generation Workplace Design*. Riba Publishing.
- Gohm, H. (2017). Ich bin dann mal im COWO! Urbane Instrumente im ländlichen Raum; »Workation« als neuer Ansatz zur Attraktivierung alpiner Tourismusdestinationen. In E. Innerhofer & H. Pechlaner (Eds.), *eurac research. Schrumpfung und Rückbau: Perspektiven der Regional- und Destinationsentwicklung* (pp. 159–168). oekom verlag.
- Golden, T. D. (2009). Applying technology to work: toward a better understanding of telework. *Organization Management Journal*, 6(4), 241–250. <https://doi.org/10.1057/omj.2009.33>

- González, A. L., & Popescu, C. R. G. (2022). The effects of digital organizational functions on the workplace. In F. Özsungur (Ed.), *Managing the Digital Workplace in the Post-Pandemic* (1st Edition). Routledge.
- Google Trends (2022). *Workation*. <https://trends.google.com/trends/explore?date=2020-05-01%202022-03-03&q=workation>
- Goswami, A., & Dutta, S. (2016). Gender Differences in Technology Usage—A Literature Review. *Open Journal of Business and Management*, 4(1), 51–59. <https://doi.org/10.4236/ojbm.2016.41006>
- Gottlieb, C. J., Grobovsek, J., & Poschke, M. (2020). Working from home across countries. *Covid Economics*, 1, 71–91.
- Gottschewski, P. O., Landwehr, M. auf der, Viebahn, C. von, & Staritz, J. (2022). *Decreasing Shopping Duration by Altering Choice Environments? An Empirical Investigation of Individual and Hybrid Nudges in the Context of e-Grocery* (Wirtschaftsinformatik 2022 Proceedings No. 18). <https://aisel.aisnet.org/wi2022/hci/hci/18>
- Granig, P., & Hilgarter, K. (2020). Organisational resilience: a qualitative study about how organisations handle trends and their effects on business models from experts' views. *International Journal of Innovation Science*, 12(5), 525–544. <https://doi.org/10.1108/IJIS-06-2020-0086>
- Grawitch, M. J., Maloney, P. W., Barber, L. K., & Mooshegian, S. E. (2013). Examining the nomological network of satisfaction with work-life balance. *Journal of Occupational Health Psychology*, 18(3), 276–284. <https://doi.org/10.1037/a0032754>
- Gray, D. (2014). Financial Concerns and Overall Life Satisfaction: A Joint Modelling Approach. *Sheffield Economic Research Paper Series*, 2014008.
- Greene, C., & Myerson, J. (2011). Space for thought: designing for knowledge workers. *Facilities*, 29(1/2), 19–30. <https://doi.org/10.1108/026327711111101304>
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of Conflict Between Work and Family Roles. *Academy of Management Review*, 10(1), 76–88.
- Greeven, C. S., & Williams, S. P. (2017). Enterprise collaboration systems: addressing adoption challenges and the shaping of sociotechnical systems. *International Journal of Information Systems and Project Management*, 5(1), 5–23. <https://doi.org/10.12821/ijispm050101>
- Gregor, S. (2006). The Nature of Theory in Information Systems. *MIS Quarterly*, 30(3), 611–642. <https://doi.org/10.2307/25148742>
- Grzywacz, J. G., & Demerouti, E. (2013). *New Frontiers in Work and Family Research*. Psychology Press.
- Gumbrell-McCormick, R., & Hyman, R. (2006). Embedded collectivism? Workplace representation in France and Germany. *Industrial Relations Journal*, 37(5), 473–491. <https://doi.org/10.1111/j.1468-2338.2006.00416.x>
- Günther, J. (2017). Digital Workplace – Herausforderungen und Implikationen für die Gestaltung. *HMD Praxis Der Wirtschaftsinformatik*, 54(6), 859–873. <https://doi.org/10.1365/s40702-017-0364-8>
- Güttel, W. H., Konlechner, S., & Müller, B. (2012). Entscheidungsmuster und Veränderungsarchitekturen in Wandelprozessen: Eine Dynamic Capabilities-Perspektive. *Schmalenbachs Zeitschrift Für Betriebswirtschaftliche Forschung*, 64(6), 630–654. <https://doi.org/10.1007/BF03372868>
- Haapakangas, A., Hallman, D. M., Mathiassen, S. E., & Jahncke, H. (2018). Self-rated productivity and employee well-being in activity-based offices: The role of

- environmental perceptions and workspace use. *Building and Environment*, 145, 115–124. <https://doi.org/10.1016/j.buildenv.2018.09.017>
- Hackl, B., Wagner, M., Attmer, L., & Baumann, D. (2017). *New Work: Auf dem Weg zur neuen Arbeitswelt*. Springer Fachmedien Wiesbaden. <https://doi.org/10.1007/978-3-658-16266-5>
- Hackman, J. R., & Oldham, G. R. (1980). *Work Redesign*. Addison- Wesley.
- Haddud, A., & McAllen, D. (2018). *Digital Workplace Management: Exploring Aspects Related to Culture, Innovation, and Leadership* (Portland International Conference on Management of Engineering and Technology (PICMET)). <https://doi.org/10.23919/PICMET.2018.8481807>
- Hagen, L. (2016). *Workation: Zwischen Urlaub und Arbeit*. <http://derstandard.at/2000038651493/Workation-Zwischen-Urlaub-undArbeit>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial Least Squares Structural Equation Modeling: Rigorous Applications, Better Results and Higher Acceptance. *Long Range Planning*, 46(1-2), 1–12. <https://doi.org/10.1016/j.lrp.2013.01.001>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hakanen, J. J., & Bakker, A. B. (2017). Born and bred to burn out: A life-course view and reflections on job burnout. *Journal of Occupational Health Psychology*, 22(3), 354–364. <https://doi.org/10.1037/ocp0000053>
- 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>
- Hall, E. T., & Hall, M. R. (1990). *Understanding Cultural Differences: Germans, French and Americans*. UK: Intercultural Press.
- Hamburg, I. (2020). Implementation of a Digital Workplace Strategy to Drive Behavior Change and Improve Competencies. In B. Orlando (Ed.), *Strategy and Behaviors in the Digital Economy*. IntechOpen. <https://doi.org/10.5772/intechopen.85135>
- Hansen, J., Neumeier, N., & Höller, M. (2023). Abstraction Allows Susceptibility to the Perspective of Others: The Case of Decreased Public Self-Awareness Due to Concrete Thinking. *Social Psychological and Personality Science*, 194855062311797. <https://doi.org/10.1177/19485506231179772>
- Hardwig, T. & Weißmann, M. (2021). Auf der Suche nach dem digitalen Arbeitsplatz. In S. Mütze-Niewöhner, W. Hacker, T. Hardwig, S. Kauffeld, E. Latniak, M. Nicklich, & U. Pietrzyk (Eds.), *Projekt- und Teamarbeit in der digitalisierten Arbeitswelt* (pp. 179–202). Springer Berlin Heidelberg.
- Hardy, B., Graham, R., Stansall, P., White, A., Harrison, A., Bell, A., & Hutton, L. (2008). *Working beyond walls: The government workplace as an agent of change*. Office of Government Commerce; DEGW.
- Harris, R. (2015). The changing nature of the workplace and the future of office space. *Journal of Property Investment & Finance*, 33(5), 424–435. <https://doi.org/10.1108/JPIF-05-2015-0029>
- Harris, K. J., Harris, R. B., Valle, M., Carlson, J., Carlson, D. S., Zivnuska, S., & Wiley, B. (2022). Technostress and the entitled employee: impacts on work and family. *Information Technology & People*, 35(3), 1073–1095. <https://doi.org/10.1108/ITP-07-2019-0348>



- 
- Hartmann, S., Lohse, M., & Pfnür, A. (2007). *15 Jahre Corporate Real Estate Management in Deutschland: Entwicklungsstand und Perspektiven der Bündelung immobilienwirtschaftlicher Aufgaben bei ausgewählten Unternehmen* (Arbeitspapiere zur immobilienwirtschaftlichen Forschung und Praxis No. 10).
- Hashim, M. Z., Che Razak, R., Che Rusuli, M. S., Muhammad, N., Wan Azib, W. N. H., & Mansor, F. A. (2023a). Digital Workplace Adoption: Extending The UTAUT With Self-Autonomy and Relatedness. *International Journal of Accounting, Finance and Business*, 8(47), 103–116. <https://doi.org/10.55573/IJAFB.084710>
- Hashim, M. Z., Che Razak, R., Ibrahim, N. Z., Norrini, M., & Mansor, F. A. (2023b). *Digital Workplace Adoption: A Bibliometric Analysis* (AIP Conference Proceedings No. 020017).
- Hauser, J. R., Eggers, F., & Selove, M. (2019). The Strategic Implications of Scale in Choice-Based Conjoint Analysis. *Marketing Science*, 38(6), 1059–1081. <https://doi.org/10.1287/mksc.2019.1178>
- Hausmann, A. (2019). *Basics der Existenzgründung in der Kultur- und Kreativwirtschaft*. Springer Fachmedien Wiesbaden. <https://doi.org/10.1007/978-3-658-27846-5>
- Hawley, A. H. (1950). *Human Ecology: A Theory of Community Structure*. Ronald Press Company.
- Haynes, B. P. (2011). The impact of generational differences on the workplace. *Journal of Corporate Real Estate*, 13(2), 98–108. <https://doi.org/10.1108/14630011111136812>
- Haynes, B., Suckley, L., & Nunnington, N. (2017). Workplace productivity and office type. *Journal of Corporate Real Estate*, 19(2), 111–138. <https://doi.org/10.1108/JCRE-11-2016-0037>
- Heidenreich, S., Spieth, P., & Petschnig, M. (2017). Ready, Steady, Green: Examining the Effectiveness of External Policies to Enhance the Adoption of Eco-Friendly Innovations. *Journal of Product Innovation Management*, 34(3), 343–359. <https://doi.org/10.1111/jpim.12364>
- Heidt, L. (2023). *Discussion Paper: Remote Work Konzepte - Definition und mögliche Klassifizierung* (Arbeitspapiere zur immobilienwirtschaftlichen Forschung und Praxis No. 51). Technische Universität Darmstadt.
- Heidt, L., Gauger, F., Wagner, B., & Pfnür, A. (2020). Widerstände gegen Agilität: Agiles Change Management als Erfolgsfaktor in Projekten der digitalen Transformation. *Die Unternehmung*, 74(2), 155–172. <https://doi.org/10.5771/0042-059X-2020-2-155>
- Heidt, L., Gauger, F., & Pfnür, A. (2023). Work from Home Success: Agile work characteristics and the Mediating Effect of supportive HRM. *Review of Managerial Science*, 17(6), 2139–2164. <https://doi.org/10.1007/s11846-022-00545-5>
- Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M., Singh, H., Teece, D., & Winter, S. G. (2007). *Dynamic capabilities: Understanding strategic change in organizations*. Blackwell Publ. <http://www.loc.gov/catdir/enhancements/fy0802/2006019318-b.html>
- Helfat, C. E., & Peteraf, M. A. (2015). Managerial cognitive capabilities and the microfoundations of dynamic capabilities. *Strategic Management Journal*, 36(6), 831–850. <https://doi.org/10.1002/smj.2247>
- Helfat, C. E., & Winter, S. G. (2011). Untangling Dynamic and Operational Capabilities: Strategy for the (N)ever-Changing World. *Strategic Management Journal*, 32(11), 1243–1250. <https://doi.org/10.1002/smj.955>

- 
- Helmold, M. (2021). *New work, transformational and virtual leadership: Lessons from COVID-19 and other crises*. Management for professionals. Springer.
- Henderson, R., & Cockburn, I. (1994). Measuring Competence? Exploring Firm Effects in Pharmaceutical Research. *Strategic Management Journal*, 15(S1), 63–84. <https://doi.org/10.1002/smj.4250150906>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Hensellek, S., & Puchala, N. (2021). The Emergence of the Digital Nomad: A Review and Analysis of the Opportunities and Risks of Digital Nomadism. In M. Orel, O. Dvouletý, & V. Ratten (Eds.), *The Flexible Workplace* (pp. 195–214). Springer International Publishing. [https://doi.org/10.1007/978-3-030-62167-4\\_11](https://doi.org/10.1007/978-3-030-62167-4_11)
- Hill, E., Ferris, M., & Mårtinson, V. (2003). Does it matter where you work? A comparison of how three work venues (traditional office, virtual office, and home office) influence aspects of work and personal/family life. *Journal of Vocational Behavior*, 63(2), 220–241. [https://doi.org/10.1016/S0001-8791\(03\)00042-3](https://doi.org/10.1016/S0001-8791(03)00042-3)
- Hill, J. E., Grzywacz, J. G., Allen, S., Blanchard, V. L., Matz-Costa, C., Shulkin, S., & Pitt-Catsouphes, M. (2008). Defining and conceptualizing workplace flexibility. *Community, Work & Family*, 11(2), 149–163. <https://doi.org/10.1080/13668800802024678>
- Hillmann, J. (2019). Forschungsstand: Der Begriff Work-Life-Balance und dahinterstehende Konzepte. In J. Hillmann (Ed.), *Work-Life-Balance als politisches Instrument* (pp. 11–46). Springer Fachmedien Wiesbaden.
- Hinz, O., Schlereth, C., & Zhou, W. (2015). Fostering the adoption of electric vehicles by providing complementary mobility services: a two-step approach using Best–Worst Scaling and Dual Response. *Journal of Business Economics*, 85(8), 921–951. <https://doi.org/10.1007/s11573-015-0765-5>
- Hirsch, P. B. (2021). Sustaining corporate culture in a world of hybrid work. *Journal of Business Strategy*, 42(5), 358–361. <https://doi.org/10.1108/JBS-06-2021-0100>
- Hirunyawipada, T., & Paswan, A. K. (2006). Consumer innovativeness and perceived risk: implications for high technology product adoption. *Journal of Consumer Marketing*, 23(4), 182–198. <https://doi.org/10.1108/07363760610674310>
- Höcker, M. C., Bachtal, Y., & Pfnür, A. (2022). Work from home: bane or blessing? Implications for corporate real estate strategies. *Zeitschrift Für Immobilienökonomie*, 8(2), 101–137. <https://doi.org/10.1365/s41056-022-00061-3>
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Cross-cultural research and methodology series. Sage Publications.
- Hofstede, G. (2001). *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations* (2nd ed.). Sage Publications, Inc.
- Hofstede Insights (2023). *Country Comparison*. <https://www.hofstede-insights.com/country-comparison/germany,the-usa/>
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind: Intercultural cooperation and its importance for survival* (Revised and expanded third edition). McGraw-Hill. <http://www.loc.gov/catdir/enhancements/fy1009/2010010437-b.html>
- Hofstede, G., & Minkov, M. (2010). Long- versus short-term orientation: new perspectives. *Asia Pacific Business Review*, 16(4), 493–504. <https://doi.org/10.1080/13602381003637609>

- 
- Holland, J. L. (1985). *Making vocational choices: A theory of vocational personalities and work environments*. Psychological Assessment Resources.
- Hölzel M., & Vries, W. T. de. (2021). Moderne Arbeitsformen durch Coworking als Chance ländlicher Entwicklung. In S. Werther (Ed.), *Coworking als Revolution der Arbeitswelt* (pp. 111–131). Springer Berlin Heidelberg.
- Hometogo (2022). *Workation*. <https://www.hometogo.de/inspiration/workation/>
- Hoskins, D. (2021). Reimagining Office Density Can Ease Return-to-Work Resistance. *MIT Sloan Management Review*, 63(2), 1–3.
- Hou, H., Remøy, H., Jylhä, T., & Vande Putte, H. (2021). A study on office workplace modification during the COVID-19 pandemic in The Netherlands. *Journal of Corporate Real Estate*, 23(3), 186–202. <https://doi.org/10.1108/JCRE-10-2020-0051>
- House, R., Javidan, M., Hanges, P., & Dorfman, P. (2002). Understanding cultures and implicit leadership theories across the globe: an introduction to project GLOBE. *Journal of World Business*, 37(1), 3–10. [https://doi.org/10.1016/S1090-9516\(01\)00069-4](https://doi.org/10.1016/S1090-9516(01)00069-4)
- Huang, I.-C., Chuang, C.-H. J., & Lin, H.-C. (2003). The Role of Burnout in the Relationship between Perceptions off Organizational Politics and Turnover Intentions. *Public Personnel Management*, 32(4), 519–531. <https://doi.org/10.1177/009102600303200404>
- Hui, C. H. (1996). *Psychological collectivism, job satisfaction, and organizational withdrawal: A review of empirical findings and a research agenda* (Paper presented at the annual Academy of Management meetings).
- Humphrey, S. E., Nahrgang, J. D., & Morgeson, F. P. (2007). Integrating motivational, social, and contextual work design features: A meta-analytic summary and theoretical extension of the work design literature. *Journal of Applied Psychology*, 92(5), 1332–1356. <https://doi.org/10.1037/0021-9010.92.5.1332>
- Hwang, T.-J., Rabheru, K., Peisah, C., Reichman, W., & Ikeda, M. (2020). Loneliness and social isolation during the COVID-19 pandemic. *International Psychogeriatrics*, 32(10), 1217–1220. <https://doi.org/10.1017/S1041610220000988>
- International Workplace Group (2019). *The IWG global workplace survey*. <https://assets.regus.com/pdfs/iwg-workplace-survey/iwg-workplace-survey-2019.pdf>
- Ipsen, C., van Veldhoven, M., Kirchner, K., & Hansen, J. P. (2021). Six Key Advantages and Disadvantages of Working from Home in Europe during COVID-19. *International Journal of Environmental Research and Public Health*, 18(4). <https://doi.org/10.3390/ijerph18041826>
- Jackson, S. E., & Maslach, C. (1982). After-effects of job-related stress: Families as victims. *Journal of Organizational Behavior*, 3(1), 63–77. <https://doi.org/10.1002/job.4030030106>
- Jacobs, E., & Gussekloo, A. (2016). *Digital nomads: How to live, work and play around the world*. Location-Independent Publishers.
- Janssen, M., & van der Voort, H. (2020). Agile and adaptive governance in crisis response: Lessons from the COVID-19 pandemic. *International Journal of Information Management*, 55, 102180. <https://doi.org/10.1016/j.ijinfomgt.2020.102180>
- Jensen, P. A., & Van der Voordt, D. J. M. (Eds.). (2017). *Facilities management and corporate real estate management as value drivers: How to manage and measure adding value*. Routledge. <https://permalink.obvsg.at/>

- 
- Jervis, G & Mawson, A. (2014). *The Workplace Management Framework*.  
[https://we.ifma.org/wp-content/uploads/2023/03/Workplace\\_Management\\_Framework\\_V14.pdf](https://we.ifma.org/wp-content/uploads/2023/03/Workplace_Management_Framework_V14.pdf)
- Jetzer, A. (2017). *Co-Working Spaces in Alpinen Destinationen: Wie können diese touristische Angebote zu ihrem Vorteil nutzen?* [Bachelorarbeit]. HES-SO Valais/Wallis.  
<http://www.hevs.ch/>
- Jiang, S., Wei, Q., & Zhang, L. (2022). Individualism Versus Collectivism and the Early-Stage Transmission of COVID-19. *Social Indicators Research*, 164(2), 791–821.  
<https://doi.org/10.1007/s11205-022-02972-z>
- JLL (2020). *Space eligibility and standards*.  
[https://images.hello.jll.com/Web/JLLAmericas/%7Ba0381bbc-1273-4efd-910b-d16bdbfdd7f0%7D\\_jll-global-2020-op-benchmarking-report-design-space-eligibility-and-standards.pdf](https://images.hello.jll.com/Web/JLLAmericas/%7Ba0381bbc-1273-4efd-910b-d16bdbfdd7f0%7D_jll-global-2020-op-benchmarking-report-design-space-eligibility-and-standards.pdf)
- Johns, T., & Gratton, L. (2013). The Third Wave of Virtual Work. *Harvard Business Review*, 91(1), 66–73. <https://hbr.org/2013/01/the-third-wave-of-virtual-work>
- Joroff, M., & Becker, F. (2016). Exploiting change and uncertainty to drive corporate value. In M. Arkesteijn, T. van der Voordt, H. Remøy, & Y. Chen (Eds.), *Dear is Durable* (pp. 105–113). TU Delft Open.
- Joy, A., & Haynes, B. P. (2011). Office design for the multi-generational knowledge workforce. *Journal of Corporate Real Estate*, 13(4), 216–232.  
<https://doi.org/10.1108/14630011111214428>
- Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction-job performance relationship: A qualitative and quantitative review. *Psychological Bulletin*, 127(3), 376–407. <https://doi.org/10.1037/0033-2909.127.3.376>
- Jurecic, M., Rief, S., & Stolze, D. (2018). *Office Analytics. Erfolgsfaktoren für die Gestaltung einer typbasierten Arbeitswelt*. Fraunhofer Verlag. <https://doi.org/10.24406/iao-n-497161>
- Kaarst-Brown, M. L., Quesenberry, J., Niederman, F., & Weitzel, T. (2018). Special issue editorial: New approaches to optimizing the digital workplace. *MIS Quarterly Executive*, 18(1), 9–23.
- Kämpf-Dern, A., & Konkol, J. (2017). Performance-oriented office environments – framework for effective workspace design and the accompanying change processes. *Journal of Corporate Real Estate*, 19(4), 208–238. <https://doi.org/10.1108/JCRE-03-2017-0009>
- Kämpf-Dern, A., & Will-Zocholl, M. (2022). Transforming workplaces into performing workspaces—Holistic evaluation concept for managing workspace change projects. *Zeitschrift Für Immobilienökonomie*, 8(2), 189–211.  
<https://doi.org/10.1365/s41056-022-00058-y>
- Kampschroer, K., & Heerwagen, J. H. (2005). The strategic workplace: development and evaluation. *Building Research & Information*, 33(4), 326–337.  
<https://doi.org/10.1080/09613210500161976>
- Kane, G. C., Nanda, R., Phillips, A., & Copulsky, J. (2021). Redesigning the post-pandemic workplace. *MIT Sloan Management Review*, 62(3), 12–14.
- Kaplan, A. M., Schoder, D., & Haenlein, M. (2007). Factors Influencing the Adoption of Mass Customization: The Impact of Base Category Consumption Frequency and Need Satisfaction. *Journal of Product Innovation Management*, 24(2), 101–116.  
<https://doi.org/10.1111/j.1540-5885.2007.00237.x>

- Kastner, S. (2020). *Ländliche Coworking Spaces : eine explorative Studie der Umsetzbarkeit in österreichischen und deutschen Großunternehmen*.  
<https://doi.org/10.34726/hss.2020.77180>
- Kaufmann, L., Rottenburger, J., Carter, C. R., & Schlereth, C. (2018). Bluffs, Lies, and Consequences: A Reconceptualization of Bluffing in Buyer–Supplier Negotiations. *Journal of Supply Chain Management*, 54(2), 49–70.  
<https://doi.org/10.1111/jscm.12155>
- Keil, M., Tan, B. C. Y., Wei, K.-K., Saarinen, T., Tuunainen, V., & Wassenaar, A. (2000). A Cross-Cultural Study on Escalation of Commitment Behavior in Software Projects. *MIS Quarterly*, 24(2), 299–325.
- Kellner, T., Albrecht, T., & Loeffl, J. (2020). *Wie arbeitest du heute? Veränderungen von Arbeits- und Organisationsstrukturen durch die Einführung von Home-Office in Zeiten der Covid-19 Pandemie*. Technische Hochschule Ostwestfalen-Lippe University of Applied Sciences and Arts Institut für Wissenschaftsdialog.  
<https://doi.org/10.13140/RG.2.2.24636.05767>
- Kim, S., & McLean, G. N. (2014). The Impact of National Culture on Informal Learning in the Workplace. *Adult Education Quarterly*, 64(1), 39–59.  
<https://doi.org/10.1177/0741713613504125>
- Kirkman, B. L., & Shapiro, D. L. (2001). The Impact of Cultural Values on Job Satisfaction and Organizational Commitment in Self-Managing Work Teams: The Mediating Role of Employee Resistance. *Academy of Management Journal*, 44(3), 557–569.  
<https://doi.org/10.2307/3069370>
- Kissmer, T., Knoll, J., Stieglitz, S., & Gross, R. (2018a). *Knowledge Workers' Expectations Towards a Digital Workplace* (Twenty-fourth Americas Conference on Information Systems (AMCIS) 2018, New Orleans).
- Kissmer, T., Kroll, T., & Stieglitz, S. (2018b). *Enterprise Digital Nudging: Between Adoption Gain and Unintended Rejection* (Twenty-fourth Americas Conference on Information Systems (AMCIS) 2018, New Orleans).
- Klaser, K., Cuel, R., & Casari, P. (2023). The future of hybrid work in Italy: A survey-based Socio-Technical-System analysis. *Journal of Innovation & Knowledge*, 8(4), 100426.  
<https://doi.org/10.1016/j.jik.2023.100426>
- Klašnja-Milićević, A., Vesin, B., Ivanović, M., & Budimac, Z. (2011). E-Learning personalization based on hybrid recommendation strategy and learning style identification. *Computers & Education*, 56(3), 885–899.  
<https://doi.org/10.1016/j.compedu.2010.11.001>
- Kleemann, F. (2013). Mobile und ortsungebundene Arbeit. In H. Hirsch-Kreinsen & H. Minssen (Eds.), *Lexikon der Arbeits- und Industriosozologie* (pp. 222–225). Edition Sigma.
- Kleemann, F. (2022). *Die Wirklichkeit der Teleheimarbeit* (2. unveränderte Auflage). Nomos Verlagsgesellschaft mbH & Co. KG. <https://doi.org/10.5771/9783748936701>
- Kohlert, Christine (ed.) 2021. *Das menschliche Büro - The human(e) office: Hilfe zur Selbsthilfe für eine gesunde Arbeitswelt - Helping people to a healthy working environment*. Wiesbaden: Springer Verlag.
- Klopotek, M. (2017). The advantages and disadvantages of remote working from the perspective of young employees. *Organization and Management Scientific Quarterly*, 4(40), 39–49.
- Kluth, A. (2008). *Nomads at last*. <https://www.economist.com/special-report/2008/04/12/nomads-at-last>

- Köffer, S. (2015). *Designing the Digital Workplace of the Future – What Scholars Recommend to Practitioners* (International Conference on Information Systems (ICIS) Proceedings No. 4).  
<https://aisel.aisnet.org/icis2015/proceedings/PracticeResearch/4>
- Köffer, S., & Urbach, N. (2016). Die Digitalisierung der Wissensarbeit – Handlungsempfehlungen aus der Wirtschaftsinformatik-Forschung. *HMD Praxis Der Wirtschaftsinformatik*, 53, 5–15. <https://doi.org/10.1365/s40702-015-0201-x>
- Konovalova, V. G., Petrenko, B. V., & Aghgashyan, R. V. (2022). Choosing a Hybrid Work Model and New Challenges. In S. I. Ashmarina, V. V. Mantulenko, & M. Vochozka (Eds.), *Lecture Notes in Networks and Systems. Proceedings of the International Scientific Conference “Smart Nations: Global Trends In The Digital Economy”* (Vol. 397, pp. 547–554). Springer International Publishing.  
[https://doi.org/10.1007/978-3-030-94873-3\\_69](https://doi.org/10.1007/978-3-030-94873-3_69)
- Körper, M. (2018). *Deutschland tickt anders als die USA*.  
<https://www.sueddeutsche.de/karriere/arbeitskultur-deutschland-tickt-anders-als-die-usa-1.3931898>
- Kossen, C., & van der Berg, A. M. (2022). When the exception becomes the norm: A quantitative analysis of the dark side of work from home. *German Journal of Human Resource Management: Zeitschrift Für Personalforschung*, 36(3), 213–237.  
<https://doi.org/10.1177/23970022221083695>
- Krabaritu-Manitakē, G. (1988). *New forms of work: Labour law and social security aspects in the European Community*. EF: 88,04 EN. Office for Official Publications of the European Communities.
- Kreiner, G. E., Hollensbe, E. C., & Sheep, M. L. (2009). Balancing Borders and Bridges: Negotiating the Work-Home Interface via Boundary Work Tactics. *Academy of Management Journal*, 52(4), 704–730.  
<https://doi.org/10.5465/AMJ.2009.43669916>
- Kröll, C., & Nüesch, S. (2019). The effects of flexible work practices on employee attitudes: evidence from a large-scale panel study in Germany. *The International Journal of Human Resource Management*, 30(9), 1505–1525.  
<https://doi.org/10.1080/09585192.2017.1289548>
- Krüger, M. A. (2023). *Flexibilisierung von Arbeitswelten in der digitalen Transformation und der Covid-19-Pandemie*. Springer Fachmedien Wiesbaden.  
<https://doi.org/10.1007/978-3-658-41572-3>
- Krupper, D. (2013). *Nutzerbasierte Bewertung von Büroimmobilien: Eine Post-Occupancy Evaluation auf Basis umweltpsychologischer Aspekte unter besonderer Berücksichtigung von Zufriedenheit, Gesundheit und Produktivität*. Zugl.: Darmstadt, Techn. Univ., Diss., 2013 (1. Aufl.). *Schriften des Forschungszentrums betriebliche Immobilienwirtschaft: Vol. 13*. Immobilien Manager Verlag.
- Krupper, D. (2015). Nutzerbasierte Bewertung von Büroimmobilien. *Zeitschrift Für Immobilienökonomie*, 1(1), 5–33. <https://doi.org/10.1365/s41056-015-0001-y>
- Kubek, V. (2012). Theoretische Grundlagen des Leitbildes „Humane berufliche Teilhabe“. In V. Kubek (Ed.), *Humanität beruflicher Teilhabe im Zeichen der Inklusion* (pp. 135–165). VS Verlag für Sozialwissenschaften. [https://doi.org/10.1007/978-3-531-19265-9\\_6](https://doi.org/10.1007/978-3-531-19265-9_6)
- Kuegler, M., Smolnik, S., & Kane, G. (2015). What’s in IT for employees? Understanding the relationship between use and performance in enterprise social software. *The Journal of Strategic Information Systems*, 24(2), 90–112.  
<https://doi.org/10.1016/j.jsis.2015.04.001>

- 
- Landy, F. J. (1985). *Psychology of work behavior* (3. ed.). *The Dorsey series in psychology*. Dorsey Press.
- Lanzl, J., Utz, L., Afflerbach, P., & Gimpel, H. (2024). Conceptualizing the Integration of Business and Private Components in Individual Information Systems. *Schmalenbach Journal of Business Research*, 76(1), 29–61. <https://doi.org/10.1007/s41471-023-00176-w>
- Leaman, A. (2003). Productivity improvement. In R. Best, G. de Valence, & C. Langston (Eds.), *Workplace Strategies and Facilities Management: Building in Value* (1. Aufl.). Elsevier professional.
- Leesman (2017). *The rise and rise of activity based working. Reshaping the physical, virtual and behavioural workspace*.  
[http://www.leesmanindex.com/The\\_Rise\\_and\\_Rise\\_of\\_Activity\\_Based\\_Working\\_Research\\_book.pdf](http://www.leesmanindex.com/The_Rise_and_Rise_of_Activity_Based_Working_Research_book.pdf)
- Leiter, M. P. (1988). Burnout as a Function of Communication Patterns. *Group & Organization Studies*, 13(1), 111–128.  
<https://doi.org/10.1177/105960118801300112>
- Lengen, J. C., Kordsmeyer, A.-C., Rohwer, E., Harth, V., & Mache, S. (2021). Soziale Isolation im Homeoffice im Kontext der COVID-19-Pandemie: Hinweise für die Gestaltung von Homeoffice im Hinblick auf soziale Bedürfnisse *Zentralblatt für Arbeitsmedizin, Arbeitsschutz und Ergonomie*, 71(2), 63–68.  
<https://doi.org/10.1007/s40664-020-00410-w>
- Levit, A. (2018). *How to create and manage an effective flexwork policy*. <https://www.shrm.org/resourcesandtools/hr-topics/benefits/pages/how-to-create-and-manage-an-effectiveflexwork-policy.aspx>
- Li, D., & Liu, J. (2014). Dynamic capabilities, environmental dynamism, and competitive advantage: Evidence from China. *Journal of Business Research*, 67(1), 2793–2799.  
<https://doi.org/10.1016/j.jbusres.2012.08.007>
- Li, G., Zhang, R., & Wang, C. (2015). The Role of Product Originality, Usefulness and Motivated Consumer Innovativeness in New Product Adoption Intentions. *Journal of Product Innovation Management*, 32(2), 214–223.  
<https://doi.org/10.1111/jpim.12169>
- Lietzau, J., Biemann, J., Bähr, U., Hentschel, P., & Schmied, A. (2021). Eine typologische Annäherung an Coworking in ländlichen Räumen. In S. Werther (Ed.), *Coworking als Revolution der Arbeitswelt* (pp. 99–110). Springer Berlin Heidelberg.
- Lietzau, J., & Puhe, O. (2021). Potenziale und Herausforderungen von (Co-)Workations anhand eines Beispiels in Schleswig-Holstein. In S. Werther (Ed.), *Coworking als Revolution der Arbeitswelt* (pp. 160–170). Springer Berlin Heidelberg.
- Lim, L. K. S., Acito, F., & Rusetski, A. (2006). Development of archetypes of international marketing strategy. *Journal of International Business Studies*, 37(4), 499–524.  
<https://doi.org/10.1057/palgrave.jibs.8400206>
- Lindberg, C. M., Tran, D. T., & Banasiak, M. A. (2016). Individual Differences in the Office: Personality factors and work-space enclosure. *Journal of Architectural and Planning Research*, 33(2), 105–120. <http://www.jstor.org/stable/44987371>
- Linthorst, J., & Waal, A. de (2020). Megatrends and Disruptors and Their Postulated Impact on Organizations. *Sustainability*, 12(20), 8740.  
<https://doi.org/10.3390/su12208740>
- Locke, E. A. (1976). The Nature and Causes of Job Satisfaction. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (3. print, pp. 1297–1343). Rand MacNally.

- 
- Loryn, B. de. (2022). Finding a Balance Between Quiet Work and Being Social: Exploring Coworking Space Needs of Digital Nomads in Terms of Amenities and Community. In T. Chaiechi & J. Wood (Eds.), *Community Empowerment, Sustainable Cities, and Transformative Economies* (pp. 151–166). Springer Nature Singapore.  
[https://doi.org/10.1007/978-981-16-5260-8\\_10](https://doi.org/10.1007/978-981-16-5260-8_10)
- Louviere, J. J., Flynn, T. N., & Marley, A. A. J. (2015). *Best-Worst Scaling: Theory, methods and applications*. Cambridge University Press.  
<https://doi.org/10.1017/CBO9781107337855>
- Louviere, J., Lings, I., Islam, T., Gudergan, S., & Flynn, T. (2013). An introduction to the application of (case 1) best–worst scaling in marketing research. *International Journal of Research in Marketing*, 30(3), 292–303.  
<https://doi.org/10.1016/j.ijresmar.2012.10.002>
- Lowell, V. L., & Morris, J. (2019). Leading Changes to Professional Training in the Multigenerational Office: Generational Attitudes and Preferences toward Learning and Technology. *Performance Improvement Quarterly*, 32(2), 111–135.  
<https://doi.org/10.1002/piq.21290>
- Lu, A. C. C., & Gursoy, D. (2016). Impact of Job Burnout on Satisfaction and Turnover Intention. *Journal of Hospitality & Tourism Research*, 40(2), 210–235.  
<https://doi.org/10.1177/1096348013495696>
- Lucas, R. E. (2018). *Reevaluating the strengths and weaknesses of self-report measures of subjective well-being* (Handbook of well-being (pp. 45–55)). UT: DEF Publishers.
- Ludwig, G., & Pemberton, J. (2011). A managerial perspective of dynamic capabilities in emerging markets: The case of the Russian steel industry. *Journal for East European Management Studies*, 16(3), 215–236. <http://hdl.handle.net/10419/84023>
- Lukoschek, C. S., & Stock-Homburg, R. M. (2021). Integrating Home and Work: How the Work Environment Enhances Household-Sector Innovations. *Research Policy*, 50(1), 104139. <https://doi.org/10.1016/j.respol.2020.104139>
- Lutz, J. (2016). The Validity of Crowdsourcing Data in Studying Anger and Aggressive Behavior. *Social Psychology*, 47(1), 38–51. <https://doi.org/10.1027/1864-9335/a000256>
- Maarleveld, M., Volker, L., & van der Voordt, T. J. (2009). Measuring employee satisfaction in new offices – the WODI toolkit. *Journal of Facilities Management*, 7(3), 181–197. <https://doi.org/10.1108/14725960910971469>
- Makimoto, T., & Manners, D. (1997). *Digital nomad*. John Wiley & Sons.  
<http://www.loc.gov/catdir/description/wiley037/97020247.html>
- ManagerMagazin (2021). *Tui lässt Beschäftigten die Wahl*. <https://www.manager-magazin.de/unternehmen/homeoffice-tui-laesst-beschaefigten-die-freie-wahl-a-6db34151-b6b2-4282-9e56-10a291dc4e45>
- Manning, K. C., Bearden, W. O., & Madden, T. J. (1995). Consumer Innovativeness and the Adoption Process. *Journal of Consumer Psychology*, 4(4), 329–345.  
[https://doi.org/10.1207/s15327663jcp0404\\_02](https://doi.org/10.1207/s15327663jcp0404_02)
- Marsh, E., Vallejos, E. P., & Spence, A. (2022). The digital workplace and its dark side: An integrative review. *Computers in Human Behavior*, 128(107118), 2–21.  
<https://doi.org/10.1016/j.chb.2021.107118>
- Marx, J., Langer, M., & Mirbabaie, M. (2023). Understanding Digital Nomadism as an Employer Branding Signal. *ICIS 2023 Proceedings*.  
<https://aisel.aisnet.org/icis2023/techandfow/techandfow/18>
- Marzban, S., Candido, C., Mackey, M., Engelen, L., Zhang, F., & Tjondronegoro, D. (2023). A review of research in activity-based working over the last ten years: lessons for



- 
- the post-COVID workplace. *Journal of Facilities Management*, 21(3), 313–333.  
<https://doi.org/10.1108/JFM-08-2021-0081>
- Maslach, C., & Jackson, S. E. (1986). *Maslach Burnout Inventory Manual* (2nd ed.). Consulting Psychologists Press.
- Matsushita, K. (2021a). Workations and Their Impact on the Local Area in Japan. In M. Orel, O. Dvoutely, & V. Ratten (Eds.), *The Flexible Workplace* (pp. 215–229). Springer International Publishing. [https://doi.org/10.1007/978-3-030-62167-4\\_12](https://doi.org/10.1007/978-3-030-62167-4_12)
- Matsushita, K. (2021b). Workation and the Doubling of Time and Place. In H. Tomita (Ed.), *Advances in Information and Communication Research. The Second Offline: Advances in Information and Communication Research* (Vol. 3, pp. 3–23). Springer Singapore. [https://doi.org/10.1007/978-981-16-2425-4\\_1](https://doi.org/10.1007/978-981-16-2425-4_1)
- Mayring, P., & Fenzl, T. (2019). Qualitative Inhaltsanalyse. In N. Baur & J. Blasius (Eds.), *Handbuch Methoden der empirischen Sozialforschung* (pp. 633–648). Springer Fachmedien Wiesbaden. [https://doi.org/10.1007/978-3-658-21308-4\\_42](https://doi.org/10.1007/978-3-658-21308-4_42)
- McKnight, D. H., Phillips, B., & Hardgrave, B. C. (2009). Which reduces IT turnover intention the most: Workplace characteristics or job characteristics? *Information & Management*, 46(3), 167–174. <https://doi.org/10.1016/j.im.2009.01.002>
- McLaurin, J. P. (2022). *Why the New Workplace Ecosystem Is Key to the Future of Work*. <https://www.gensler.com/blog/what-does-the-new-workplace-ecosystem-look-like>
- Mendoza Villaneda, S. (2019). *Goal-oriented retreats: An enhanced professional experience based on a service design approach* [Master thesis]. Delft University of Technology. <http://resolver.tudelft.nl/uuid:96eb9f4d-8961-4299-9d2a-1fb7e9037370>
- Meng, B., & Han, H. (2018). Investigating individuals' decision formation in working-holiday tourism: the role of sensation-seeking and gender. *Journal of Travel & Tourism Marketing*, 35(8), 973–987.  
<https://doi.org/10.1080/10548408.2017.1422455>
- Mergener, A. (2020). *Homeoffice in Deutschland: Zugang, Nutzung und Regelung: Ergebnisse aus der BIBB/BAuA Erwerbstätigenbefragung 2018*.
- Merkel, J. (2022). Coworking Spaces as Destinations and New Stakeholders in Hospitality Ecosystems. In H. Pechlaner, N. Olbrich, J. Philipp, & H. Thees (Eds.), *Towards an ecosystem of hospitality: Location:City:Destination* (pp. 140–147). Graffeg Limited.
- Meske, C. & Junglas, I. (2021). Investigating the elicitation of employees' support towards digital workplace transformation. *Behaviour & Information Technology*, 40(11), 1120–1136. <https://doi.org/10.1080/0144929X.2020.1742382>
- Meske, C., Kissmer, T., & Stieglitz, S. (2016). Einfluss von Demographie und Führungsverantwortung auf die Adaption von Technologien zur Unterstützung organisationaler Ad-hoc-Kommunikation. In V. Nissen, D. Stelzer, S. Straßburger, & D. Fischer (Eds.), *Multikonferenz Wirtschaftsinformatik (MKWI) 2016: Technische Universität Ilmenau, 09. - 11. März 2016* (pp. 303–314). Universitätsverlag Ilmenau.
- Messenger, J. C., & Gschwind, L. (2016). Three generations of Telework: New ICT s 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>
- Meyn, M. (2020). Digitalization and Its Impact on Life in Rural Areas: Exploring the Two Sides of the Atlantic: USA and Germany. In S. Patnaik, S. Sen, & M. S. Mahmoud (Eds.), *Modeling and Optimization in Science and Technologies. Smart Village Technology* (Vol. 17, pp. 99–116). Springer International Publishing.  
[https://doi.org/10.1007/978-3-030-37794-6\\_5](https://doi.org/10.1007/978-3-030-37794-6_5)

- 
- Mićić, L., Khamooshi, H., Raković, L., & Matković, P. (2022). Defining the digital workplace: A systematic literature review. *Strategic Management*, 27(2), 29–43. <https://doi.org/10.5937/StraMan2200010M>
- Midgley, D. F., & Dowling, G. R. (1978). Innovativeness: The Concept and Its Measurement. *Journal of Consumer Research*, 4(4), 229. <https://doi.org/10.1086/208701>
- Mlitz, K. (2021). *Change in remote work trends due to COVID-19 in the United States in 2020*. <https://www.statista.com/statistics/1122987/change-in-remote-work-trends-after-covid-in-usa/>
- Mobley, W. H. (1977). Intermediate linkages in the relationship between job satisfaction and employee turnover. *Journal of Applied Psychology*, 62(2), 237–240. <https://doi.org/10.1037/0021-9010.62.2.237>
- Moen, P., Kelly, E. L., Fan, W., Lee, S.-R., Almeida, D., Kossek, E. E., & Buxton, O. M. (2016). Does a Flexibility/Support Organizational Initiative Improve High-Tech Employees' Well-Being? Evidence from the Work, Family, and Health Network. *American Sociological Review*, 81(1), 134–164. <https://doi.org/10.1177/0003122415622391>
- Møller-Jensen, L., Jensen-Butler, C., Madsen, B., Millard, J., & Schmidt, L. (2008). A Web-Based Study of the Propensity to Telework Based on Socio-Economic, Work Organisation and Spatial Factors. In C. Jensen-Butler, B. Sloth, M. M. Larsen, B. Madsen, & O. A. Nielsen (Eds.), *Advances in Spatial Science. Road Pricing, the Economy and the Environment* (pp. 395–409). Springer Berlin Heidelberg. [https://doi.org/10.1007/978-3-540-77150-0\\_20](https://doi.org/10.1007/978-3-540-77150-0_20)
- Moreno-Medina, C., Parreño-Castellano, J. M., & Domínguez-Mujica, J. (2022). *The Canarian Coastal Areas' Attractiveness for Teleworking: Digital Nomadism and post-pandemic in Las Palmas de Gran Canaria*. <https://doi.org/10.13140/RG.2.2.30466.15047>
- Morgan, M. S. (2012). Case Studies: One Observation or Many? Justification or Discovery? *Philosophy of Science*, 79(5), 667–677. <https://doi.org/10.1086/667848>
- Moser, K. S., & Axtell, C. M. (2013). The Role of Norms in Virtual Work. *Journal of Personnel Psychology*, 12(1), 1–6. <https://doi.org/10.1027/1866-5888/a000079>
- Müller, C. E., & Albrecht, M. (2019). Crowdsourcing in der Evaluationsforschung: Neue Möglichkeiten für die Erhebung von Daten. *Zeitschrift Für Evaluation*, 18(1), 134–139. <https://www.waxmann.com/artikelART102771>
- Muneeb, D., Khatkhat, A., Wahba, K., Abdalla, S., & Ahmad, S. Z. (2023). Dynamic capabilities as a strategic flexibility enabler: organizational responsiveness to COVID-19. *Journal of Asia Business Studies*, 17(4), 824–849. <https://doi.org/10.1108/JABS-01-2022-0023>
- Naor, M., Pinto, G. D., Hakakian, A. I., & Jacobs, A. (2022). The impact of COVID-19 on office space utilization and real-estate: a case study about teleworking in Israel as new normal. *Journal of Facilities Management*, 20(1), 32–58. <https://doi.org/10.1108/JFM-12-2020-0096>
- Nauta, M. M. (2010). The development, evolution, and status of Holland's theory of vocational personalities: Reflections and future directions for counseling psychology. *Journal of Counseling Psychology*, 57(1), 11–22. <https://doi.org/10.1037/a0018213>
- Newey, L. R., & Zahra, S. A. (2009). The Evolving Firm: How Dynamic and Operating Capabilities Interact to Enable Entrepreneurship. *British Journal of Management*, 20(1), 81–100. <https://doi.org/10.1111/j.1467-8551.2008.00614.x>

- Newman, C., Delaney, L., & Nolan, B. (2008). A Dynamic Model of the Relationship Between Income and Financial Satisfaction: Evidence from Ireland. *The Economic and Social Review*, 39(2), 105–130.
- Neyer, F. J., Felber, J., & Gebhardt, C. (2016). *Kurzskala Technikbereitschaft (TB, technology commitment)* (Zusammenstellung sozialwissenschaftlicher Items und Skalen (ZIS)). <https://doi.org/10.6102/zis244>
- Nguyen, T. D., Nguyen, T. M., Pham, Q.-T., & Misra, S. (2014). Acceptance and Use of E-Learning Based on Cloud Computing: The Role of Consumer Innovativeness. In B. Murgante, S. Misra, A. M. A. C. Rocha, C. Torre, J. G. Rocha, M. I. Falcão, D. Taniar, B. O. Apduhan, & O. Gervasi (Eds.), *Lecture Notes in Computer Science. Computational Science and Its Applications – ICCSA 2014* (Vol. 8583, pp. 159–174). Springer International Publishing. [https://doi.org/10.1007/978-3-319-09156-3\\_12](https://doi.org/10.1007/978-3-319-09156-3_12)
- Niebuhr, F., Borle, P., Börner-Zobel, F., & Voelter-Mahlknecht, S. (2022). Healthy and Happy Working from Home? Effects of Working from Home on Employee Health and Job Satisfaction. *International Journal of Environmental Research and Public Health*, 19(3), 1122. <https://doi.org/10.3390/ijerph19031122>
- Nijp, H. H., Beckers, D. G. J., van de Voorde, K., Geurts, S. A. E., & Kompier, M. A. J. (2016). Effects of new ways of working on work hours and work location, health and job-related outcomes. *Chronobiology International*, 33(6), 604–618. <https://doi.org/10.3109/07420528.2016.1167731>
- Nilsen, P. (2015). Making sense of implementation theories, models and frameworks. *Implementation Science: IS*, 10, 53. <https://doi.org/10.1186/s13012-015-0242-0>
- Nomadcruise (2022). *Design your life at sea*. <https://www.nomadcruise.com/>
- Noonan, M., Richter, G., Durham, L., & Pierce, E. (2017). Learning and the digital workplace: What? So what? Now what? *Strategic HR Review*, 16(6), 267–273. <https://doi.org/10.1108/SHR-09-2017-0061>
- O'Connor, M., Conboy, K., & Dennehy, D. (2022). COVID-19 affected remote workers: a temporal analysis of information system development during the pandemic. *Journal of Decision Systems*, 31(3), 207–233. <https://doi.org/10.1080/12460125.2020.1861772>
- O'Rourke, G. A. (2021). Workplace strategy: a new workplace model. *Asia Pacific Journal of Human Resources*, 59(4), 554–566. <https://doi.org/10.1111/1744-7941.12288>
- Offstein, E. H., Morwick, J. M., & Koskinen, L. (2010). Making telework work: leading people and leveraging technology for competitive advantage. *Strategic HR Review*, 9(2), 32–37. <https://doi.org/10.1108/14754391011022244>
- Olckers, C., & Koekemoer, E. (2022). The COVID-19 Pandemic: Managing Unplanned Change as the New Normal in the Workplace. In I. L. Potgieter & N. Ferreira (Eds.), *Managing Human Resources* (pp. 31–52). Springer International Publishing. [https://doi.org/10.1007/978-3-031-09803-1\\_3](https://doi.org/10.1007/978-3-031-09803-1_3)
- Oldenburg, R. (1999). *The great good place: Cafés, coffee shops, bookstores, bars, hair salons, and other hangouts at the heart of a community*. Da Capo Press. <http://www.loc.gov/catdir/enhancements/fy0832/99029168-b.html>
- Oliver, J. D., & Rosen, D. E. (2010). Applying the environmental propensity framework: A segmented approach to hybrid electric vehicle marketing strategies. *Journal of Marketing Theory & Practice*, 18(4), 377–393. <https://www.jstor.org/stable/25764775>
- Orel, M. (2019). Coworking environments and digital nomadism: balancing work and leisure whilst on the move. *World Leisure Journal*, 61(3), 215–227. <https://doi.org/10.1080/16078055.2019.1639275>

- 
- Orel, M. (2021). From disruption to the transformation of a contemporary workplace (Guest editorial). *Journal of Corporate Real Estate*, 23(3), 149–150. <https://doi.org/10.1108/JCRE-09-2021-070>
- Orel, M., & Bennis, W. M. (2021). Classifying changes. A taxonomy of contemporary coworking spaces. *Journal of Corporate Real Estate*, 23(4), 278–296. <https://doi.org/10.1108/jcre-12-2020-0061>
- Orlikowski, W. J., & Scott, S. V. (2016). Digital work: a research agenda. In B. Czarniawska (Ed.), *A Research Agenda for Management and Organization Studies* (pp. 88–95). Edward Elgar Publishing.
- Out of office (2022). *Get work done and enjoy! Find your perfect team workation today*. <https://workation.works/>
- Overby, E., Bharadwaj, A., & Sambamurthy, V. (2006). Enterprise agility and the enabling role of information technology. *European Journal of Information Systems*, 15(2), 120–131. <https://doi.org/10.1057/palgrave.ejis.3000600>
- Palich, L. E., Hom, P. W., & Griffeth, R. W. (1995). Managing in the international context: Testing the cultural generality of sources of commitment to multinational enterprises. *Journal of Management*, 21, 671–690.
- Pataki-Bittó, F., & Kapusy, K. (2021). Work environment transformation in the post COVID-19 based on work values of the future workforce. *Journal of Corporate Real Estate*, 23(3), 151–169. <https://doi.org/10.1108/JCRE-08-2020-0031>
- Peng, S., & Roth, A. R. (2022). Social Isolation and Loneliness Before and During the COVID-19 Pandemic: A Longitudinal Study of U.S. Adults Older Than 50. *The Journals of Gerontology: Social Sciences*, 77(7), 185-190. <https://doi.org/10.1093/geronb/gbab068>
- Peyinghaus, M., & Zeitner, R. (Eds.). (2019). *Transformation Real Estate: Changeprozesse in Unternehmen und für Immobilien*. Springer Vieweg.
- Pfnür, A, Gauger, F., Bachtal, Y., & Wagner, B. (2021a). *Homeoffice im Interessenkonflikt. Ergebnisbericht einer empirischen Studie* (Arbeitspapiere zur immobilienwirtschaftlichen Forschung und Praxis No. 41). Technical University Darmstadt.
- Pfnür, A, Seger, J., & Appel-Meulenbroek, R. (2021b). Corporate real estate management and companies' success: empirical evidence for a conceptual framework. *Journal of Corporate Real Estate*, 23(4), 243–262. <https://doi.org/10.1108/JCRE-12-2019-0051>
- Pfnür, A, Voll, K., Höcker, M. C., & Bachtal, Y. (2023). *Von der Pandemienotlösung zum Konzept multilokaler Arbeit – Empirische Studie zu den Erfahrungen der Beschäftigten für eine Zukunft an verteilten Arbeitsorten* (Arbeitspapiere zur immobilienwirtschaftlichen Forschung und Praxis No. 50). Technische Universität Darmstadt.
- Piechatzek, J. M. (2023). *Die Transformation der Arbeitswelt*. Springer Fachmedien Wiesbaden. <https://doi.org/10.1007/978-3-658-42724-5>
- Pillai, S. V., & Prasad, J. (2023). Investigating the key success metrics for WFH/remote work models. *Industrial and Commercial Training*, 55(1), 19–33. <https://doi.org/10.1108/ICT-07-2021-0053>
- Plijter, E. B., van der J.M. Voordt, T., & Rocco, R. (2014). Managing the workplace in a globalized world. *Facilities*, 32(13/14), 744–760. <https://doi.org/10.1108/F-11-2012-0093>
- Plouffe, C. R., Vandenbosch, M., & Hulland, J. (2001). Intermediating technologies and multi-group adoption: A comparison of consumer and merchant adoption

- intentions toward a new electronic payment system. *Journal of Product Innovation Management*, 18(2), 65–81. <https://doi.org/10.1111/1540-5885.1820065>
- Ployhart, R. E., & Vandenberg, R. J. (2010). Longitudinal Research: The Theory, Design, and Analysis of Change. *Journal of Management*, 36(1), 94–120. <https://doi.org/10.1177/0149206309352110>
- Ployhart, R. E., & Ward, A.-K. (2011). The “Quick Start Guide” for Conducting and Publishing Longitudinal Research. *Journal of Business and Psychology*, 26(4), 413–422. <https://doi.org/10.1007/s10869-011-9209-6>
- Porter, L. W., & Steers, R. M. (1973). Organizational, work, and personal factors in employee turnover and absenteeism. *Psychological Bulletin*, 80(2), 151–176. <https://doi.org/10.1037/h0034829>
- Preston, C. C., & Colman, A. M. (2000). Optimal number of response categories in rating scales: Reliability, validity, discriminating power, and respondent preferences. *Acta Psychologica*, 104(1), 1–15. [https://doi.org/10.1016/S0001-6918\(99\)00050-5](https://doi.org/10.1016/S0001-6918(99)00050-5)
- Putrevu, S., & Lord, K. R. (1994). Comparative and Noncomparative Advertising: Attitudinal Effects under Cognitive and Affective Involvement Conditions. *Journal of Advertising*, 23(2), 77–91. <https://doi.org/10.1080/00913367.1994.10673443>
- Putzier, K. (2023). *As Americans Work From Home, Europeans and Asians Head Back to the Office*. <https://www.wsj.com/articles/as-americans-work-from-home-europeans-and-asians-head-back-to-the-office-db6981e1?st>
- PwC (2021). *It's time to reimagine where and how work will get done: PwC's US Remote Work Survey*. <https://www.pwc.com/us/en/library/covid-19/us-remote-work-survey.html>
- Ralston, D. A., Holt, D. H., Terpstra, R. H., & Kai-Cheng, Y. (2008). The impact of national culture and economic ideology on managerial work values: a study of the United States, Russia, Japan, and China. *Journal of International Business Studies*, 39(1), 8–26. <https://doi.org/10.1057/palgrave.jibs.8400330>
- Ramani, A., & Bloom, N. A. (2021). *The Donut Effect: How COVID-19 Shapes Real Estate*. Stanford Institute for Economic Policy Research.
- Rasool, T., Warraich, N. F., & Sajid, M. (2022). Examining the Impact of Technology Overload at the Workplace: A Systematic Review. *SAGE Open*, 12(3), 215824402211143. <https://doi.org/10.1177/21582440221114320>
- Ratten, V. (2014). A US-China comparative study of cloud computing adoption behavior. *Journal of Entrepreneurship in Emerging Economies*, 6(1), 53–71. <https://doi.org/10.1108/JEEE-07-2013-0019>
- Reinhardt, R., & Gurtner, S. (2015). Differences between early adopters of disruptive and sustaining innovations. *Journal of Business Research*, 68(1), 137–145. <https://doi.org/10.1016/j.jbusres.2014.04.007>
- Reinke, K. (2018). *Always Online: Boundary Management and Well-being of Knowledge Workers in the Age of Information and Communication Technology Use*. Technische Universität, Darmstadt. <https://tuprints.ulb.tu-darmstadt.de/id/eprint/7578>
- Remy, H., & Van der Voordt, T. J. (2013). *Adaptability - How to Accommodate Changing User Preferences* (ERES eres2013\_108).
- Rich, B. L., Lepine, J. A., & Crawford, E. R. (2010). Job Engagement: Antecedents and Effects on Job Performance. *Academy of Management Journal*, 53(3), 617–635. <https://doi.org/10.5465/AMJ.2010.51468988>
- Ridder, H.-G. (2017). The theory contribution of case study research designs. *Business Research*, 10(2), 281–305. <https://doi.org/10.1007/s40685-017-0045-z>

- Rigdon, E. E. (2012). Rethinking Partial Least Squares Path Modeling: In Praise of Simple Methods. *Long Range Planning*, 45(5-6), 341–358.  
<https://doi.org/10.1016/j.lrp.2012.09.010>
- Robinson (2020). *Workation@Robinson: Homeoffice am Strand*.  
<https://www.tuigroup.com/damfiles/default/tuigroup-15/de/medien/Images-Pressemitteilung/2020/2020-10-27-rb-homeoffice-am-strand/PIWorkation-ROBINSON.pdf-3e24633890c44e54d59728654c57f225.pdf>
- Rogers, E. M. (1995). *Diffusion of innovations* (4. ed.). Free Press.
- Ronda, L., Valor, C., & Abril, C. (2018). Are they willing to work for you? An employee-centric view to employer brand attractiveness. *Journal of Product & Brand Management*, 27(5), 573–596. <https://doi.org/10.1108/JPBM-07-2017-1522>
- Roskams, M., McNeely, E., Weziak-Bialowolska, D., & Bialowolski, P. (2021). Job Demands-Resources Model. In R. Appel-Meulenbroek & V. Danivska (Eds.), *A Handbook of Theories on Designing Alignment between People and the Office Environment* (pp. 27–38). Routledge. <https://doi.org/10.1201/9781003128830-3>
- Ross, P., & Ressia, S. (2015). Neither office nor home: Coworking as an emerging workplace choice. *Employment Relations Record*, 15(1), 42–57.
- Röhrich, G. (2004). Consumer innovativeness. *Journal of Business Research*, 57(6), 671–677. [https://doi.org/10.1016/S0148-2963\(02\)00311-9](https://doi.org/10.1016/S0148-2963(02)00311-9)
- Rupietta, K., & Beckmann, M. (2018). Working from Home. *Schmalenbach Business Review*, 70(1), 25–55. <https://doi.org/10.1007/s41464-017-0043-x>
- Ryan, J. M. (2022). *COVID-19: Cultural Change and Institutional Adaptations* (1st ed.). Routledge. <https://doi.org/10.4324/9781003302612>
- Salazar, M. K., & Beaton, R. (2000). Ecological Model of Occupational Stress: Application to Urban Firefighters. *AAOHN Journal*, 48(10), 470–479.  
<https://doi.org/10.1177/216507990004801005>
- Sanders, E. (2021). *Neues TUI-Programm fördert flexibles Arbeiten*.  
<https://www.fvw.de/counter/karriere/remote-work-neues-tui-programm-foerdert-flexibles-arbeiten-220517>
- Sandström, N., Nenonen, S., & Nevgi, A. (2022). Hybrid Learning Environments in Universities – how to manage the co-creation process from design to use. In C. Tagliaro, A. Migliore, & R. Silvestri (Eds.), *roceedings of the 3rd Transdisciplinary Workplace Research Conference 7-10 September 2022 in Milan, Italy: TWR NETWORK*. Politecnico di Milano (pp. 134–143).
- Sarstedt, M., & Mooi, E. (2014). *A Concise Guide to Market Research: The Process, Data, and Methods Using IBM SPSS Statistics*. Springer Berlin Heidelberg.  
<https://doi.org/10.1007/978-3-642-12541-6>
- Savić, D. (2020). COVID-19 and work from home: Digital transformation of the workforce. *Grey Journal*, 16(2), 101–104.
- Schade, H. M., Digutsch, J., Kleinsorge, T., & Fan, Y. (2021). Having to Work from Home: Basic Needs, Well-Being, and Motivation. *International Journal of Environmental Research and Public Health*, 18(10), 5149. <https://doi.org/10.3390/ijerph18105149>
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal of Organizational Behavior*, 25(3), 293–315. <https://doi.org/10.1002/job.248>
- Schilke, O., Hu, S., & Helfat, C. E. (2018). Quo Vadis, Dynamic Capabilities? A Content-Analytic Review of the Current State of Knowledge and Recommendations for Future Research. *Academy of Management Annals*, 12(1), 390–439.  
<https://doi.org/10.5465/annals.2016.0014>

- 
- Schlägel, C., & Sarstedt, M. (2016). Assessing the measurement invariance of the four-dimensional cultural intelligence scale across countries: A composite model approach. *European Management Journal*, 34(6), 633–649. <https://doi.org/10.1016/j.emj.2016.06.002>
- Schlereth, C., & Skiera, B. (2017). Two New Features in Discrete Choice Experiments to Improve Willingness-to-Pay Estimation That Result in SDR and SADR: Separated (Adaptive) Dual Response. *Management Science*, 63(3), 829–842. <https://doi.org/10.1287/mnsc.2015.2367>
- Schmidt, C., Praeg, C.-P., & Gunther, J. (2018). *Designing Digital Workplace Environments: An Agile Framework for Large-Scale End-User Participation* (2018 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC)). <https://doi.org/10.1109/ICE.2018.8436349>
- Schreyer, J., Sauer, S., Tihlarik, A., Nicklich, M., Pfeiffer, S., & Blank, M. (2023). Beyond Home or Office – Arbeits(t)raum Homeoffice während und nach Corona. *WSI-Mitteilungen*, 76(1), 10–18. <https://doi.org/10.5771/0342-300X-2023-1-10>
- Schreyögg, G., & Kliesch-Eberl, M. (2007). How dynamic can organizational capabilities be? Towards a dual-process model of capability dynamization. *Strategic Management Journal*, 28(9), 913–933. <https://doi.org/10.1002/smj.613>
- Schreyögg, G., & Sydow, J. (2010). Organizing for Fluidity? Dilemmas of New Organizational Forms. *Organization Science*, 21(6), 1251–1262. <https://doi.org/10.1287/orsc.1100.0561>
- Schroeder, T., Dodds, L., Georgiou, A., Gewalt, H., & Siette, J. (2023). Older Adults and New Technology: Mapping Review of the Factors Associated With Older Adults' Intention to Adopt Digital Technologies. *JMIR Aging*, 6(1), e44564. <https://doi.org/10.2196/44564>
- Schuh, G., Klappert, S., Schubert, J., & Nollau, S. (2011). Grundlagen zum Technologiemanagement. In G. Schuh & S. Klappert (Eds.), *Technologiemanagement* (pp. 33–54). Springer Berlin Heidelberg.
- Schwartz, S. H. (2006). A theory of cultural value orientations: explication and applications. *Comparative Sociology*, 5(2/3), 137–182.
- Schwarz Müller, T., Brosi, P., Duman, D., & Welp, I. M. (2018). How Does the Digital Transformation Affect Organizations? Key Themes of Change in Work Design and Leadership. *Management Revue - Socio-Economic Studies*, 29(2), 114–138. <https://doi.org/10.5771/0935-9915-2018-2-114>
- Selimović, J., Pilav-Velić, A., & Krndžija, L. (2021). Digital workplace transformation in the financial service sector: Investigating the relationship between employees' expectations and intentions. *Technology in Society*, 66, 101640. <https://doi.org/10.1016/j.techsoc.2021.101640>
- Sept, A. (2020). Thinking Together Digitalization and Social Innovation in Rural Areas: An Exploration of Rural Digitalization Projects in Germany. *European Countryside*, 12(2), 193–208. <https://doi.org/10.2478/euco-2020-0011>
- Seyed Esfahani, M., & Reynolds, N. (2021). Impact of consumer innovativeness on really new product adoption. *Marketing Intelligence & Planning*, 39(4), 589–612. <https://doi.org/10.1108/MIP-07-2020-0304>
- Shmueli, G., & Koppius, O. R. (2011). Predictive Analytics in Information Systems Research. *MIS Quarterly*, 35(3), 553–572. <https://doi.org/10.2307/23042796>
- Siddiqui, N. N. (2015). An Empirical Study on Job Satisfaction among Faculties in Selected Personal Universities of Uttar Pradesh. *International Journal of Management Research and Reviews*, 5(4), 238–245.

- 
- Silva, L., & Hirschheim, R. (2007). Fighting against Windmills: Strategic Information Systems and Organizational Deep Structures. *MIS Quarterly*, 31(2), 327. <https://doi.org/10.2307/25148794>
- Silverman, R. E. (2015). *This Summer, How About a Workcation?* <https://www.wsj.com/articles/this-summer-how-about-taking-a-workcation-1435072989>
- Smite, D., Moe, N. B., Hildrum, J., Huerta, J. G., & Mendez, D. (2023). Work-from-home is here to stay: Call for flexibility in post-pandemic work policies. *The Journal of Systems and Software*, 195, 111552. <https://doi.org/10.1016/j.jss.2022.111552>
- Soriano, A., W. Kozusznik, M., Peiró, J. M., & Mateo, C. (2020). The Role of Employees' Work Patterns and Office Type Fit (and Misfit) in the Relationships Between Employee Well-Being and Performance. *Environment and Behavior*, 52(2), 111–138. <https://doi.org/10.1177/0013916518794260>
- SoSciSurvey (2023). *Datenschutz in Online-Befragungen*. <https://www.sosicisurvey.de/de/privacy>
- Spector, P. E., Cooper, C. L., & Sparks, K. (2001). An International Study of the Psychometric Properties of the Hofstede Values Survey Module 1994: A Comparison of Individual and Country/Province Level Results. *Applied Psychology*, 50(2), 269–281. <https://doi.org/10.1111/1464-0597.00058>
- Spinuzzi, C. (2012). Working Alone Together. *Journal of Business and Technical Communication*, 26(4), 399–441. <https://doi.org/10.1177/1050651912444070>
- Spivack, A. J., & Milosevic, I. (2018). Perceived Location Autonomy and Work Environment Choice: The Mediating Influence of Intrinsic Motivation. *The Journal of Applied Behavioral Science*, 54(3), 325–348. <https://doi.org/10.1177/0021886318764353>
- Stanton, C., & Tiwari, P. (2021). Housing Consumption and the Cost of Remote Work. *NBER Working Paper*(w28483).
- Starchos, I., & Schüll, A. (2021). Stressed by Boredom in Your Home Office? On „Boreout“ as a Side-effect of Involuntary Distant Digital Working Situations on Young People at the Beginning of Their Career. In *Proceedings of the 23rd International Conference on Enterprise Information Systems* (pp. 557–564). SCITEPRESS - Science and Technology Publications. <https://doi.org/10.5220/0010479405570564>
- Statista (2023). *Ranking der 20 Länder mit dem größten Bruttoinlandsprodukt (BIP) im Jahr 2022*”, available. <https://de.statista.com/statistik/daten/studie/157841/umfrage/ranking-der-20-laender-mit-dem-groessten-bruttoinlandsprodukt/>
- Steelcase (2009). *Office Code, Building Connections between Cultures and Workplace Design*. Gesellschaft für Knowhow-transfer in Architektur und Bauwesen.
- Steelcase (2022). *The new era of hybrid work: It's time to give people what they want*. [https://www.steelcase.com/content/uploads/2022/03/2022\\_SC\\_GlobalReport\\_Final.pdf](https://www.steelcase.com/content/uploads/2022/03/2022_SC_GlobalReport_Final.pdf)
- Steenkamp, J. B. E. M., Hofstede, F., & Wedel, M. (1999). A crossnational investigation into the individual and national cultural antecedents of consumer innovativeness. *Journal of Marketing*, 63(2), 55–69.
- Stegmann, S., van Dick, R., Ullrich, J., Charalambous, J., Menzel, B., Egold N., & Tai-Chi Wu, T. (2010). Der Work Design Questionnaire: Vorstellung und erste Validierung einer deutschen Version. *Zeitschrift Für Arbeits- Und Organisationspsychologie*, 54(1), 1–28. <https://doi.org/10.1026/0942-4089/a000002>



- Stokols, D. (2000). Social ecology and behavioral medicine: implications for training, practice, and policy. *Behavioral Medicine*, 26(1), 129–138. <https://doi.org/10.1080/08964280009595760>
- Strebel, H. (2007). *Innovations- und Technologiemanagement* (2nd Edition). utb GmbH. <https://doi.org/10.36198/9783838524559>
- Subel, S., Stepanek, M., & Roulet, T. (2022). How Shifts in Remote Behavior Affect Employee Well Being. *MIT Sloan Management Review*, 63(4).
- Subramaniam, R., Singh, S. P., Padmanabhan, P., Gulyás, B., Palakkeel, P., & Sreedharan, R. (2021). Positive and Negative Impacts of COVID-19 in Digital Transformation. *Sustainability*, 13(16), 9470. <https://doi.org/10.3390/su13169470>
- Suravi, S. (2024). Training and development in the hybrid workplace. *The Learning Organization*, 31(1), 48–67. <https://doi.org/10.1108/TLO-10-2022-0119>
- Surf Office (2022). *Your productive company retreat*. [https://www.surfoffice.com/?gclid=EAIaIQobChMIjr6Btf7X-AIV5QyLCh1b6wh5EAAYAiAAEgIbP\\_D\\_BwE](https://www.surfoffice.com/?gclid=EAIaIQobChMIjr6Btf7X-AIV5QyLCh1b6wh5EAAYAiAAEgIbP_D_BwE)
- Surfparadies (2022). *Surfparadies: Surfreisen*. <https://www.surfparadies-porto.de/pages/surf-workation>
- Surma, M., Nunes, R., Rook, C., & Loder, A. (2021). Assessing Employee Engagement in a Post-COVID-19 Workplace Ecosystem. *Sustainability*, 13(20), 11443. <https://doi.org/10.3390/su132011443>
- Sutarto, A. P., Wardaningsih, S., & Putri, W. H. (2021). Work from home: Indonesian employees' mental well-being and productivity during the COVID-19 pandemic. *International Journal of Workplace Health Management*, 14(4), 386–408. <https://doi.org/10.1108/IJWHM-08-2020-0152>
- Tabachnick, B. G., & Fidell, L. S. (2014). *Using multivariate statistics* (6. ed.,). *Always learning*. Pearson.
- Tagliaro, C., & Ciaramella, A. (2016). Experiencing smart working: a case study on workplace change management in Italy. *Journal of Corporate Real Estate*, 18(3), 194–208. <https://doi.org/10.1108/JCRE-10-2015-0034>
- Tagliaro, C., & Hua, Y. (2021). Decision-making theory: how a multiple perspective approach can generate workplace strategies. In R. Appel-Meulenbroek & V. Danivska (Eds.), *A Handbook of Management Theories and Models for Office Environments and Services* (pp. 85–99). Routledge.
- Tagliaro, C, Zhou, Y., & Hua, Y. (2022). Work Activity Pattern and Collaboration Network: New Drivers for Workplace Space Planning and Design. *Journal of Interior Design*, 47(3), 29–46. <https://doi.org/10.1111/joid.12226>
- Teece, D. J. (1986). Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research Policy*, 15(6), 285–305. [https://doi.org/10.1016/0048-7333\(86\)90027-2](https://doi.org/10.1016/0048-7333(86)90027-2)
- Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350. <https://doi.org/10.1002/smj.640>
- Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning*, 51(1), 40–49. <https://doi.org/10.1016/j.lrp.2017.06.007>
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7<509::AID-SMJ882>3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z)

- 
- The Federal Government (2023). *Gigabitstrategie der Bundesregierung*.  
<https://www.bundesregierung.de/breg-de/themen/digitaler-aufbruch/gigabitstrategie-2017464>
- Thompson, B. Y. (2018). Digital Nomads Employment in the Online Gig Economy. *Glocalism*. Advance online publication. <https://doi.org/10.12893/gjcpi.2018.1.11>
- Thurstone, L. L. (1927). A law of comparative judgment. *Psychological Review*, 34(4), 273–286. <https://doi.org/10.1037/h0070288>
- Tödttmann, C. (2021). *Mobiles Arbeiten oder Homeoffice im Ausland: Nach dem 20. Arbeitstag drohen Arbeitgebern teure Risiken*.  
<https://blog.wiwo.de/management/2021/09/13/mobiles-arbeiten-oder-homeoffice-im-ausland-nach-dem-20-arbeitstag-drohen-arbeitgebern-teure-risiken/>
- Tophotel (2021). *Gastgeber bieten immer öfter Workation an*.  
<https://www.tophotel.de/corona-trendgastgeber-bieten-immer-oeffter-workation-an-85346/>
- Toscano, F., & Zappalà, S. (2020). Social Isolation and Stress as Predictors of Productivity Perception and Remote Work Satisfaction during the COVID-19 Pandemic: The Role of Concern about the Virus in a Moderated Double Mediation. *Sustainability*, 12(23), 9804. <https://doi.org/10.3390/su12239804>
- Trompenaars, F., & Hampden-Turner, C. (1997). *Riding the waves of culture: Understanding cultural diversity in business*. Nicholas Brealey.
- TUI (2022). *Workation*. <https://www.tui.com/workation/>
- Uriely, N. (2001). 'Travelling workers' and 'working tourists': variations across the interaction between work and tourism. *International Journal of Tourism Research*, 3(1), 1–8. [https://doi.org/10.1002/1522-1970\(200101/02\)3:1<1::AID-JTR241>3.0.CO;2-M](https://doi.org/10.1002/1522-1970(200101/02)3:1<1::AID-JTR241>3.0.CO;2-M)
- Vallo Hult, H., & Byström, K. (2022). Challenges to learning and leading the digital workplace. *Studies in Continuing Education*, 44(3), 460–474.  
<https://doi.org/10.1080/0158037X.2021.1879038>
- Van der Voordt, T. J. (2004). Productivity and employee satisfaction in flexible workplaces. *Journal of Corporate Real Estate*, 6(2), 133–148.  
<https://doi.org/10.1108/14630010410812306>
- Van Praag, B., Frijters, P., & Ferrer-i-Carbonell, A. (2003). The anatomy of subjective well-being. *Journal of Economic Behavior & Organization*, 51(1), 29–49.  
[https://doi.org/10.1016/S0167-2681\(02\)00140-3](https://doi.org/10.1016/S0167-2681(02)00140-3)
- Venkatesh, V., Morris, M. G., & Ackerman, P. L. (2000). A Longitudinal Field Investigation of Gender Differences in Individual Technology Adoption Decision-Making Processes. *Organizational Behavior and Human Decision Processes*, 83(1), 33–60.  
<https://doi.org/10.1006/obhd.2000.2896>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27(3), 425–478.  
<https://doi.org/10.2307/30036540>
- Venkatesh, V., & Speier, C. (1999). Computer Technology Training in the Workplace: A Longitudinal Investigation of the Effect of Mood. *Organizational Behavior and Human Decision Processes*, 79(1), 1–28. <https://doi.org/10.1006/obhd.1999.2837>
- Vermani, S. & Sharma, S. (2021). New normal in the workplace post Covid-19. *International Journal of Innovation and Applied Studies*, 33(1), 12–16.
- Vischer, J. C. (1996). *Workspace Strategies*. Springer US. <https://doi.org/10.1007/978-1-4684-7784-9>

- Vischer, J. C. (2011). Human Capital and the Organization–Accommodation Relationship. In A. Burton-Jones & J.-C. Spender (Eds.), *The Oxford Handbook of Human Capital* (pp. 477–498). Oxford University Press.  
<https://doi.org/10.1093/oxfordhb/9780199532162.003.0020>
- Visitbergen (2022). *Workation in Bergen*. <https://de.visitbergen.com/ideen-and-inspiration/erkunden-bergen/workation-in-bergen-und-umgebung>
- Vogel, D., & Funck, B. J. (2018). Immer nur die zweitbeste Lösung? Protokolle als Dokumentationsmethode für qualitative Interviews. Advance online publication.  
<https://doi.org/10.17169/fqs-19.1.2716> (Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, Vol 19, No 1 (2018)).
- Voll, K., Bachtal, Y., & Pfnür, A. (2023a). *Influencing Factors to Enhance the Adoption of Digital Workplace - The Value of Workplace Innovations for Space Provision* (29th Annual European Real Estate Society Conference. ERES: Conference. London, United Kingdom). [https://doi.org/10.15396/eres2023\\_107](https://doi.org/10.15396/eres2023_107)
- Voll, K., Gauger, F., & Pfnür, A. (2022a). CREM perspective on home office—a consideration of the workplace and its mechanisms of action. *Zeitschrift Für Immobilienökonomie*, 8(2), 139–171. <https://doi.org/10.1365/s41056-022-00060-4>
- Voll, K., Gauger, F., & Pfnür, A. (2022b). Work from anywhere: traditional workation, coworkation and workation retreats: a conceptual review. *World Leisure Journal*, 65(2), 150–174. <https://doi.org/10.1080/16078055.2022.2134199>
- Voll, K., Gauger, F., & Pfnür, A. (2023b). Turnover intention during COVID-19 – learnings for HR on better understanding the home office. In I. Henzler, H. Hues, S. Sonnleitner, & U. Wilkens (Eds.), *Extended Views: Gesellschafts- und wirtschaftswissenschaftliche Perspektiven auf die Covid-19-Pandemie* (1st ed., pp. 161–183). Böhlau Köln.
- Wang, Y. K. & Datta, P. (2006). Understand IS Continuance: A Technology Commitment Perspective. ICIS 2006 Proceedings. 77. <https://aisel.aisnet.org/icis2006/77>
- Wang, Y. K., & Datta, P. (2009). A Technology Commitment Model of Post-Adoption Behavior. *Information Resources Management Journal*, 22(4), 1–22.  
<https://doi.org/10.4018/irmj.2009061901>
- Wang, B., Liu, Y., Qian, J., & Parker, S. K. (2021). Achieving Effective Remote Working During the COVID-19 Pandemic: A Work Design Perspective. *Applied Psychology*, 70(1), 16–59. <https://doi.org/10.1111/apps.12290>
- Wang, B. & Parker, S. K. (2023). Embracing the digital workplace: A smart work design approach to supporting virtual work. In L. L. Gilson, T. O'Neill, & M. T. Maynard (Eds.), *Handbook of virtual work*. Edward Elgar Publishing.
- Wang, B., Schlagwein, D., Cecez-Kecmanovic, D., & Cahalane, M. (2020). Beyond the Factory Paradigm: Digital Nomadism and the Digital Future(s) of Knowledge Work Post-COVID-19. *Journal of the Association for Information Systems*, 21, 1379–1401.  
<https://doi.org/10.17705/1jais.00641>
- Weber, C. (2019). *Privacy fit in open-plan offices: Its appraisal, associated outcomes & contextual factors* [Thesis for: Doctor of Philosoph]. University of Surrey.  
<https://doi.org/10.15126/thesis.00850409>
- Weber, C., & Gatersleben, B. (2022). Office relocation: changes in privacy fit, satisfaction and fatigue. *Journal of Corporate Real Estate*, 24(1), 21–39.  
<https://doi.org/10.1108/JCRE-12-2020-0066>
- Weber, C., Golding, S. E., Yarker, J., Lewis, R., Ratcliffe, E., Munir, F., Wheele, T. P., Häne, E., & Windlinger, L. (2022). Future Teleworking Inclinations Post-COVID-19:

- Examining the Role of Teleworking Conditions and Perceived Productivity. *Frontiers in Psychology*, 13, 863197. <https://doi.org/10.3389/fpsyg.2022.863197>
- Weijts-Perrée, M., Appel-Meulenbroek, R., Vries, B. de, & Romme, G. (2016). Differences between business center concepts in The Netherlands. *Property Management*, 34(2), 100–119. <https://doi.org/10.1108/PM-04-2015-0015>
- Weinkauff, K., & Woywode, M. (2004). Erfolgsfaktoren von virtuellen Teams — Ergebnisse einer aktuellen Studie. *Schmalenbachs Zeitschrift Für Betriebswirtschaftliche Forschung*, 56(4), 393–412. <https://doi.org/10.1007/BF03372742>
- Weissbourd, R., Batanova, M., Lovison, V., & Torres, E. (2021). *Loneliness in America: How the Pandemic Has Deepened an Epidemic of Loneliness and What We Can Do About It: Harvard's Making Caring Common Project*. Harvard Graduate School of Education.
- Weritz, P., Matute, J., Braojos, J., & Kane, J. (2022). How Much Digital is Too Much? A Study on Employees' Hybrid Workplace Preferences. *ICIS 2022 Proceedings*, 3. [https://aisel.aisnet.org/icis2022/is\\_futureofwork/is\\_futureofwork/3](https://aisel.aisnet.org/icis2022/is_futureofwork/is_futureofwork/3)
- Werkmann-Karcher, B., Zirkler, M., Windlinger, L., & Weber, C. (2023). Flexibilisierung der Arbeit in Raum und Zeit. In B. Werkmann-Karcher, A. Müller, & T. Zbinden (Eds.), *Personalpsychologie für das Human Resource Management* (pp. 245–279). Springer Berlin Heidelberg. [https://doi.org/10.1007/978-3-662-65308-1\\_13](https://doi.org/10.1007/978-3-662-65308-1_13)
- Werther, S. (2021a). Grundlagen zu Coworking, Coliving und Workation. In S. Werther (Ed.), *Coworking als Revolution der Arbeitswelt* (pp. 3–11). Springer Berlin Heidelberg.
- Werther, S. (2021b). Potenziale von Coworking und (Co-)Workation für Tourismus, Hotellerie und Gastronomie. In S. Werther (Ed.), *Coworking als Revolution der Arbeitswelt* (pp. 152–160). Springer Berlin Heidelberg.
- Wessels, C., Schippers, M. C., Stegmann, S., Bakker, A. B., van Baalen, P. J., & Proper, K. I. (2019). Fostering Flexibility in the New World of Work: A Model of Time-Spatial Job Crafting. *Frontiers in Psychology*, 10(505), 1–13. <https://doi.org/10.3389/fpsyg.2019.00505>
- Wijnja, J., van der Voordt, T. J., & Hoendervanger, J. G. (2021). Corporate real estate management maturity model. In R. Appel-Meulenbroek & V. Danivska (Eds.), *A Handbook of Management Theories and Models for Office Environments and Services* (pp. 13–24). Routledge. <https://doi.org/10.1201/9781003128786-2>
- Willermark, S., & Islind, A. S. (2023). Adopting to the virtual workplace: identifying leadership affordances in virtual schools. *Journal of Workplace Learning*, 35(9), 22–37. <https://doi.org/10.1108/JWL-05-2022-0052>
- Williams, S. P., & Schubert, P. (2018). Designs for the Digital Workplace. *Procedia Computer Science*, 138, 478–485. <https://doi.org/10.1016/j.procs.2018.10.066>
- Windlinger, L., & Lange, S. (2021). Workplace Experience: Hintergründe, Konzept und Umsetzung. In C. Kohlert (Ed.), *Das menschliche Büro - The human(e) office* (pp. 269–282). Springer Fachmedien Wiesbaden. [https://doi.org/10.1007/978-3-658-33519-9\\_15](https://doi.org/10.1007/978-3-658-33519-9_15)
- Windlinger, L., & Tuzcuoglu, D. (2021). Usability theory: Adding a user-centric perspective to workplace management. In R. Appel-Meulenbroek & V. Danivska (Eds.), *A Handbook of Management Theories and Models for Office Environments and Services* (pp. 173–183). Routledge.
- Wiranatha, A. S., Antara, M., Wiranatha, A. C., Piartrini, P. S., Pujaastawa, I. B. G., & Suryawardani, I Gusti A. O. (2020). Digital Nomads tourism in Bali. *Journal of Development Economics and Finance*, 1(1), 1–16.

- Wohlers, C., & Hertel, G. (2017). Choosing where to work at work - towards a theoretical model of benefits and risks of activity-based flexible offices. *Ergonomics*, 60(4), 467–486. <https://doi.org/10.1080/00140139.2016.1188220>
- Wolf, S. (2016). *Coworking as a new relevant trend for tourism? An Explorative Study* [Master Thesis]. University of St. Gallen.
- Wolpin, J., Burke, R. J., & Greenglass, E. R. (1991). Is Job Satisfaction an Antecedent or a Consequence of Psychological Burnout? *Human Relations*, 44(2), 193–209. <https://doi.org/10.1177/001872679104400205>
- Wright, P. D., & Bretthauer, K. M. (2010). Strategies for Addressing the Nursing Shortage: Coordinated Decision Making and Workforce Flexibility. *Decision Sciences*, 41(2), 373–401. <https://doi.org/10.1111/j.1540-5915.2010.00269.x>
- Xiao, Y., Becerik-Gerber, B., Lucas, G., & Roll, S. C. (2021). Impacts of Working From Home During COVID-19 Pandemic on Physical and Mental Well-Being of Office Workstation Users. *Journal of Occupational and Environmental Medicine*, 63(3), 181–190. <https://doi.org/10.1097/JOM.0000000000002097>
- Yalabik, Z. Y., Popaitoon, P., Chowne, J. A., & Rayton, B. A. (2013). Work engagement as a mediator between employee attitudes and outcomes. *The International Journal of Human Resource Management*, 24(14), 2799–2823. <https://doi.org/10.1080/09585192.2013.763844>
- Yang, N., Chen, C. C., Choi, J., & Zou, Y. (2000). Sources of Work-Family Conflict: A Sino-U.S. Comparison of the Effects of Work and Family Demands. *Academy of Management Journal*, 43(1), 113–123. <https://doi.org/10.5465/1556390>
- Yang, E., Kim, Y., & Hong, S. (2023). Does working from home work? Experience of working from home and the value of hybrid workplace post-COVID-19. *Journal of Corporate Real Estate*, 25(1), 50–76. <https://doi.org/10.1108/JCRE-04-2021-0015>
- Yang, E., & Sandborn, B. (2021). Ecological Systems Theory. In R. Appel-Meulenbroek & V. Danivska (Eds.), *A Handbook of Theories on Designing Alignment between People and the Office Environment* (pp. 101–114). Routledge.
- Ybema, J. F., Smulders, P. G. W., & Bongers, P. M. (2010). Antecedents and consequences of employee absenteeism: A longitudinal perspective on the role of job satisfaction and burnout. *European Journal of Work and Organizational Psychology*, 19(1), 102–124. <https://doi.org/10.1080/13594320902793691>
- Yi, M. Y., Jackson, J. D., Park, J. S., & Probst, J. C. (2006). Understanding information technology acceptance by individual professionals: Toward an integrative view. *Information & Management*, 43(3), 350–363. <https://doi.org/10.1016/j.im.2005.08.006>
- Yin, R. K. (2014). *Case study research: Design and methods* (5. edition). Sage.
- Yunus, E. N., & Ernawati, E. (2018). Productivity paradox? The impact of office redesign on employee productivity. *International Journal of Productivity and Performance Management*, 67(9), 1918–1939. <https://doi.org/10.1108/IJPPM-12-2017-0350>
- Zelenski, J. M., Murphy, S. A., & Jenkins, D. A. (2008). The Happy-Productive Worker Thesis Revisited. *Journal of Happiness Studies*, 9(4), 521–537. <https://doi.org/10.1007/s10902-008-9087-4>
- Zhang, S. X., Chen, J., Afshar Jahanshahi, A., Alvarez-Risco, A., Dai, H., Li, J., & Patty-Tito, R. M. (2022). Succumbing to the COVID-19 Pandemic-Healthcare Workers Not Satisfied and Intend to Leave Their Jobs. *International Journal of Mental Health and Addiction*, 20(2), 956–965. <https://doi.org/10.1007/s11469-020-00418-6>
- Zilk, A. (2022). *Workation-Spots mit WLAN*. Online Source. <https://roadsurfer.com/de/blog/workation-stellplaetze-mit-wlan/>

---

Zwick, T. (2003). Empirische Determinanten des Widerstandes von Mitarbeitern gegen Innovationen. *Schmalenbachs Zeitschrift Für Betriebswirtschaftliche Forschung*, 55(1), 45–59. <https://doi.org/10.1007/BF03372698>

---

---

## Appendix

---

### List of Appendices

Appendix A – Appendix of Article 2: <i>Is the success of working from home a matter of configuration? – A comparison between the United States and Germany using PLS-SEM</i> .....	II
Appendix B – Appendix of Article 4: <i>Employees’ intention to adopt the digital workplace – the role of companies in promoting the digital transformation</i> .....	IV

## Appendix A – Appendix of Article 2: Is the success of working from home a matter of configuration? – A comparison between the United States and Germany using PLS-SEM

List of items (authors' own illustration, 2023)

<i>Item</i>	<i>Construct</i>	<i>Source</i>
reflective	<b>Isolation</b>	
<i>Iso_1</i>	I feel lonely at my workplace at home.	(Bloom et al., 2015)
<i>Iso_2</i>	I feel isolated at my workplace at home.	(Bloom et al., 2015)
<i>Iso_3</i>	At my workplace at home, I lack opportunities to socialise at and after work.	(Bloom et al., 2015)
reflective	<b>Family–Work Interference (inverted)</b>	
<i>FWI_1</i>	In most ways, my work–life balance is close to my ideal.	(Diener et al., 1985)
<i>FWI_2</i>	So far, I have gotten the important things regarding my work–life balance.	(Diener et al., 1985; Grawitch et al., 2013)
reflective	<b>Equipment/Facilities</b>	
<i>EF_1</i>	I have a full-fledged workplace in terms of furniture (including storage space).	(Maarleveld et al., 2009; BMFSFJ, 2017)
<i>EF_2</i>	The technological equipment of your home office. – I have full information and communication technology equipment (computers, printers, etc.).	(Møller-Jensen et al., 2008; Maarleveld et al., 2009; BMFSFJ, 2017)
<i>EF_3</i>	The available rooms (equipment, furniture) support the work optimally.	(Maarleveld et al., 2009; Gauger et al., 2020)
reflective	<b>Skill Variety</b>	
<i>SV_1</i>	The job requires a variety of skills.	(Hackman/Oldham, 1980; Stegmann et al., 2010)
<i>SV_2</i>	The job requires me to utilise a variety of different skills in order to complete the work.	(Hackman/Oldham, 1980; Stegmann et al., 2010)
<i>SV_3</i>	The job requires me to use a number of complex or high-level skills.	(Hackman/Oldham, 1980; Stegmann et al., 2010)
<i>SV_4</i>	The job requires the use of a number of skills.	(Hackman/Oldham, 1980; Stegmann et al., 2010)
reflective	<b>Burnout</b>	
<i>Burn_1</i>	I feel emotionally drained from my work.	(Maslach/Jackson, 1986; Moen et al., 2016)
<i>Burn_2</i>	I feel burned out by my work.	(Maslach/Jackson, 1986; Moen et al., 2016)
<i>Burn_3</i>	I feel drained at the end of the workday.	(Maslach/Jackson, 1986; Moen et al., 2016)



reflective	<b>Satisfaction</b>	
<i>Satis_1</i>	All in all, I am satisfied with my job.	(Cammann et al., 1979; Cammann et al., 1983; Bowling/Hammond, 2008; Allen, 2001)
<i>Satis_2</i>	I am satisfied with my home office.	Amérigo/Aragonés, 1990; Gauger et al., 2020)
<i>Satis_3</i>	Your satisfaction with your life overall.	(Diener et al., 1985; Bowling/Hammond, 2008)
<i>Satis_4</i>	Your satisfaction with your financial situation.	(Van Praag et al., 2003; Newman et al., 2008; Gray, 2014)
reflective	<b>Turnover Intention</b>	
<i>TI_1</i>	I intend to leave my job in the next 6 months.	(Cammann et al., 1979; Zhang et al., 2022)
<i>TI_2</i>	I will actively look for a new job in the next 6 months.	(Cammann et al., 1979; Zhang et al., 2022)
<i>TI_3</i>	I will probably be working for another organisation for the next 6 months.	(Cammann et al., 1979; Zhang et al., 2022)
reflective	<b>Productivity</b>	
<i>Prod_1</i>	Working at my workplace at home makes it easier for me to do my work.	(Own research following Krupper, 2013)
<i>Prod_2</i>	Working at my workplace at home increases my effectiveness at work.	(Own research following Krupper, 2013)
<i>Prod_3</i>	Working at my workplace at home improves my productivity.	(Own research following Krupper, 2013)
<i>Prod_4</i>	I have the feeling that working at home is more productive than working at my professional office workstation.	(Own research following Krupper, 2013)

---

---

## Appendix B – Appendix of Article 4: Employees’ intention to adopt the digital workplace – the role of companies in promoting the digital transformation

---

### List of items

---

#### Construct

##### Item

---

#### *Depend variable*

#### **Intention to Adopt the Digital Workplace**

I use, or will use as soon as possible, the digital workplace.

I intend to (continue to) use the digital workplace in the near future.

It is very likely that I will (continue to) use the digital workplace in the future.

I use or will use the digital workplace the next time I want to try out a new form of collaboration.

---

#### *Individual Level*

#### **Consumer Innovativeness**

##### Social Innovativeness

I get a thrill when buying new high-tech items before most other people know they exist.

It’s cool to be the first to own new high-tech products.

I get a thrill when I’m the first to buy a high-tech item.

##### Hedonist Innovativeness

I’d rather stick with a brand I usually buy than try something I’m not too sure of. (inverse)

If I like a brand, I rarely switch from it simply to try something different. (inverse)

I’m very cautious to try new or different products. (inverse)

#### **Technology Commitment**

##### Technology Acceptance

With regard to new technical developments, I am very curious.

I quickly take a liking to new technical new developments.

I am always interested in using the latest technical devices.

If I had the opportunity, I would use technical products much more often than I do at present

##### Technology Literacy Beliefs

When dealing with modern technology, I am often afraid of failing. (inverse)

For me, dealing with technical

Innovations, is usually too much for me. (inverse)

I am afraid of breaking new technical developments rather than using them properly. (inverse)

I find dealing with new technology difficult - most of the time I just can't not. (inverse)

##### Technology Control Beliefs

Whether I am successful in the application modern technology depends essentially on me.

It is in my own hands whether I succeed in using technical innovations - it has little to do with. It has little to do with chance or luck.

When I have difficulties in dealing with with technology, it depends ultimately depends on me alone to solve them. solve them.

---

What happens when I deal with with new technical developments, is ultimately under my control.

*Corporate Level*

### **Technical Infrastructure**

The necessary technical infrastructure for the digital workplace is in place.

There is a good technical infrastructure for using the digital workplace.

When I use the digital workplace, I can draw on a well-developed technical infrastructure.

### **Corporate Governance**

Symbols and brands for the digital workplace have been created to highlight it as a workplace strategy.

There is a clear workplace concept (corporate philosophy and strategic goals of the organization) in which the digital workplace is integrated.

New behavioural norms for the digital workplace (e.g., rules of engagement) are promoted.

The digital workplace is effectively developed on an ongoing basis, e.g. by collecting information from employees through IT helpdesk requests.

Support in the form of training for the digital workplace is provided.

Continuous learning opportunities for the digital workplace are provided.

Innovation centers, as hubs where diverse ideas, actors and technologies converge, are created by my company.

Inspiring physical spaces with an open, flexible and activity-oriented character are available in the company.

My company's management is responsive to feedback on employees' experiences with the digital workplace.

### **Corporate Communication**

The management of my company encourages experimentation with new technologies and new working approaches of the digital workplace.

The use of the digital workplace is highly recommended by my company.

The digital workplace is portrayed positively in all of my company's communication channels.

The digital workplace appears in a positive light in corporate communications.

The management of my company shows openness towards the digital workplace and sufficiently exemplifies its use.

### **Change Management**

My company involved me sufficiently in planning the use of the digital workplace.

My company took my needs into account when planning the digital workplace.

My company provided me with sufficient information about the implementation.

---

*Social Level*

### **Obstacles of Digitalization**

An obstacle of digitization is a lack of public digital infrastructure (e.g., fibre expansion)

---

---

## Eidesstattliche Versicherung

---

Ich versichere hiermit, dass ich die vorstehende Arbeit

*“The workplace ecosystem: Understanding and managing hybrid working environments with consideration for employee preferences and outcomes”*

selbstständig und ohne fremde Hilfe angefertigt, und dass ich alle von anderen Autoren wörtlich übernommene Stellen wie auch die sich an die Gedankengänge anderer Autoren eng anlehnenden Ausführungen meiner Arbeit besonders gekennzeichnet und die Quellen zitiert habe.

Die Arbeit ist in gleicher oder ähnlicher Form noch nicht veröffentlicht und noch keiner Prüfungsbehörde vorgelegt worden.

Darmstadt, den 23.05.2024

*(Kyra Johanna Voll)*