
Guest editorial: Transdisciplinary Workplace Research (TWR) 2022 Conference

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In the wake of the COVID-19 pandemic, a profound debate has started about the function of corporate real estate. The adoption of what is popularly called “hybrid work” is now widespread. In its diverse forms, it corresponds to a flexible and mobile work arrangement entailing the multi-location of work activities between offices, homes and other spaces. Nowadays, it is common for people to work at least partially from places that are found outside of the company office or the main location of their registered business. On the one hand, working from home (WFH), made necessary at first by the pandemic, has been incorporated into the everyday life of employees. On the other hand, third places, including coworking spaces, have become common locations where work happens frequently. These trends have spurred the need for new reflections. More than ever before, work seems dispersed in space and time while the *raison d'être* of the office is blurring.

One fundamental question concerns the extent to which workers can and should autonomously decide how (i.e. where and when) to work and what factors can influence their decisions. Clearly, individual characteristics play a crucial role. Health has become a priority, probably also due to the concerns that the pandemic has triggered for both physical and mental conditions.

A second important question regards, instead, the extent to which companies can and should determine how their employees work and which factors they should base decisions about their physical premises on. Here, multiple forces are encouraging organisations to take a sustainable approach, including the recent focus on Sustainable Development Goals and the required ESG reporting. Therefore, companies are increasingly considering aspects like environmental sustainability along with societal impacts that derive from their corporate real estate and workplace strategies.

In this context, not only researchers but also employers and consultants have been progressively acknowledging the usefulness of a transdisciplinary outlook to advance knowledge and practice and accompany the workplace throughout its inevitable and desired evolution. This special issue collects a representative sample of the most recent advancements in this field that were presented at the III Transdisciplinary Workplace Research (TWR) Conference. The Conference brought together work environment experts in a wide range of disciplines, from both academia and practice, in line with the spirit of the TWR Network (www.twrnetwork.org). The idea of the Network is that the design and operations of healthy and productive working environments should not only take specialistic economic, personnel, design or technical-communicative aspects into account; integrative approaches interweaving distinct disciplinary paths are also necessary. Moreover, practical experience must underpin a sound evidence-based approach to research, to overcome the traditional theory-practice dichotomy. That is why TWR encourages the convergence of the various aspects of the workplace that are usually studied in isolated academic and professional fields. With this aim, the TWR Network organises a biannual conference that is held every year in different parts of the world. After Tampere (Finland, 2018) and Frankfurt (Germany, 2020), in 2022 the event took place in Milan, Italy, hosted by Politecnico di Milano from 7 to 10 September.



The III TWR conference included a multiplicity of topics, regarding the physical work environment (such as architecture and design, building physics and material science), social work environment (such as human resources management, behavioural sciences, organisational science, business, health and safety, neuroscience, environmental psychology and philosophy), digital work environment (such as information communication technology, virtual reality, sensor engineering and data analytics) and management of the built environment (such as asset, facility and property management, economics, corporate real estate management and decision science). Presented research focused on an individual, team, organisational or urban level of analysis. This special issue offers a broad overview of the topics that were touched upon during the conference.

The first paper “Is the success of working from home a matter of configuration? – A comparison between the United States and Germany using PLS-SEM” by Kyra Voll and Andreas Pfnür (Technical University of Darmstadt, Hochschulstraße, Darmstadt, Germany) addresses the increased flexibility of work on different scales. The world of work is becoming globalised and companies can recruit their workforce internationally. This tendency implies a renewed role of national cultures in affecting work policies and work outcomes. Voll and Pfnür’s research focuses on the outcomes of employees working predominantly from home in two different countries (i.e. the USA and Germany) building up on the job demands-resources and environmental demands-resources model. The study investigates how burnout and satisfaction are influenced in determining productivity and turnover by “job demands” on the one hand, particularly:

- isolation; and
- family-work interference, and “job resources” on the other, namely, equipment/facilities and skill variety.

This research is deeply rooted in the COVID period with data collected during summer 2020. The findings highlight that isolation, along with equipment and facilities affect the above-mentioned WFH outcomes. Isolation is particularly severe in the USA, where it comes out as more strongly correlated to burnout compared to Germany. Thus, in an attempt of reducing turnover and boosting productivity, companies may want to invest in high-quality equipment and adopt measures to counterbalance isolation. At the same time, letting employees choose their place of work freely according to their desire to counteract isolation and find balance between the work and private sphere will certainly lower the risk of burnout and, by extension, improve well-being. The focus of the second paper in this special issue resonates with this argument.

Indeed, Ebru Baykal Uluoz and Gökseven Inalhan (Department of Architecture, Istanbul Technical University, Istanbul, Turkey) analyse design solutions of shared workspaces to identify good practices for health promotion in their paper entitled “Shared workspace design: Elements of analysis for a healthy work experience”. This paper leverages upon the same set of demand and resource theories as the previous research, together with the “supportive design theory” and “psychosocial supportive design theory”. This research takes a deliberately “salutogenic” approach converse to a “pathogenic” attitude. If the latter stems from the identification of problems and risks, the former is more proactive in its focus on supporting factors of health and well-being. Health is a broad concept that includes three dimensions: physical, mental and social. A scoping literature review is the starting point of this paper for the development of a salutogenic evaluation model of a healthy work experience embedded in the demand and resource notion. The theoretical model names five conceptual categories, namely, comfort, stimulation, functionality, social support and safety, which can favourably be applied for coworking space design. Eventually, this paper

proposes a model to assist architects, designers, workplace strategists and other stakeholders in the creation of healthy work experiences. This paper provides not only an analytical model applicable in the pre-design phases but also suggests retrieving post-occupancy evaluations, a well-established but sometimes forgotten methodology. By combining two main elements: design attributes supporting restorative work and salutogenic outcomes (i.e. physical, mental and social health), this contribution underlines a commitment to a holistic view to well-being in the office with the human being at the centre.

The third paper in this collection moves from similar premises. Authored by Daniel Magnusson, Hendry Raharjo and Petra Bosch-Sijtsema (Department of Technology Management and Economics, Chalmers University of Technology, Gothenburg, Sweden), the paper entitled “Sustainable coworking: The member perspective” offers an intriguing investigation on sustainability in coworking from the perspective of the users rather than from the coworking providers’ side. In this case, through the support of the theory of “generic sustainable behaviours”, sustainability is translated into attitudes that are specifically embedded in the value proposition of coworking. Three main constructs emerge that describe sustainable coworking behaviour from a member perspective:

- (1) proactive behaviour;
- (2) prosocial behaviour; and
- (3) responsible space sharing behaviour.

Beside some tensions that may appear between these three distinct behaviours, the investigators argue that a sustainable coworking member is one that simultaneously:

- (1) achieves the goals and objectives for the organisation that they represent;
- (2) benefits other individuals inside the coworking space; and
- (3) responsibly shares the coworking space.

The study concludes with a conceptual model proposing a holistic perspective on sustainability, which goes well beyond the more common environmental point of view to embrace the triple bottom line. This model can inspire coworking providers to improve their spaces to help members act more sustainably.

Finally, two papers take a more general approach, aiming in the first to characterise academic work, in its distinctive aspects within the broader category of knowledge work and the second to frame the concept of inclusion for how it is discussed both in academia and industry.

“Academic Work – Something Else?”, by Kaja Indergård and Geir Karsten Hansen (Department of Architecture and Planning, Norwegian University of Science and Technology, Trondheim, Norway), shows that academic activities encompass research, teaching, dissemination and administrative tasks. The way these activities are performed varies depending especially on disciplinary reasons, although interdisciplinary collaboration is acknowledged by all research domains as fundamental for solving complex problems. Academic work shares with knowledge work a number of similarities. It is primarily a mental process. As such, it requires a certain level of control of the surrounding physical environment to obtain privacy when desired. At the same time, it highly depends on knowledge exchange to produce innovation. Therefore, it entails frequent switches between a large variety of activities. However, unlike knowledge work, academic work encompasses teaching and supervision, and a high degree of variation and autonomy. It is also characterised by a strong focus on research which is a difficult activity to measure in terms of productivity.

This paper can support decision-making processes when universities are planning campus development and need to orient themselves in the layout choice between private offices, open spaces and activity-based working. Clearly, academic workspaces extend well beyond individual offices to occupy the university as a whole. Most of all, a standardised approach considering knowledge work as a reference model may lead to suboptimal outcomes, especially given the large span of needs' variations that can be detected.

This final reflection anticipates the content of the last paper in this special issue, "Room for diversity. A review of research and industry approaches to inclusive workplaces" by Chiara Tagliaro [Department of Architecture, Built Environment and Construction Engineering (ABC), Politecnico di Milano, Milan, Italy], Alessandra Migliore (Department of Management, Economics and Industrial Engineering, Politecnico di Milano, Milan, Italy), Erica Isa Mosca and Stefano Capolongo (ABC Department, Politecnico di Milano, Milan, Italy). This paper develops a preliminary framework to critically observe the wide array of needs that may emerge in the workplace, based on diversity among individuals. Through a scoping review of both scientific literature and company reports, this contribution disentangles emerging issues related to office design and workplace strategies for promoting inclusion. On the whole, four major diversity categories could be distinguished: psycho-physical conditions, socio-economic conditions, cultural aspects, as well as ability, experience and strengths. This paper suggests that "inclusion" can be interpreted as the degree to which an employee feels a sense of community and belonging in a work system, being accepted by others for their unique characteristics and treated as an insider, regardless of the extent of "diversity" which is a variable condition going beyond stable characteristics of individuals. Aspects affecting inclusion in the workplace can be material or immaterial, and cross different scales – from the smallest, including furniture arrangements and equipment, to the largest, such as the location of an office within the city and the whole city as a socio-cultural context – and be relevant to design, strategies and policies. This last paper fosters the progress of diversity awareness and will hopefully help recognise the value that different individuals can bring in today's multi-located workplace.

In summary, this special issue discusses a range of topics that revolve more around the people using corporate real estate assets than around the facilities themselves as physical properties. What all the contributions have in common is direct attention to the end-user of workspaces, may they be corporate employees, solopreneurs, co-workers, academics or other knowledge worker categories. This clearly shows an appreciation for the human factors that should be the first determinants of the shape, function and role of the built environment. Eventually, these come across as the core entities real estate strategies should be modelled around. This stream of reflections may be the sign of a trend, or simply a moment in a cycle. Still, it offers orientation for navigating the current pressing questions around emerging work modes, workplaces and corporate real estate decisions.

Observing humans and interpreting their complex relationship with buildings is only possible with sound methodological and theoretical frameworks. This special issue displays a wide variety of research approaches, which are all relevant for deepening our knowledge of new ways of working and how these can make sense within a new ecosystem of spaces. The issue gathers contributions from different geographical areas. Empirical data was collected in Germany, Turkey, Sweden, Norway, Italy and the USA, giving an account of the cultural differences that may emerge in an array of contexts – as is also discussed in the first paper. The methodologies to examine people in all these areas rely on qualitative or quantitative approaches and propose either theoretical frameworks or more practical measures to tackle workplace and corporate real estate issues.

A multiplicity of disciplines finds direct reference in this publication: psychology, environmental science, behavioural science, medicine, architecture and design and organisation studies. More indirect links will be undoubtedly found by an attentive readership. The tangible outcome of this review lies in the transdisciplinary stance that is brought up in all the papers and creates a thread linking different pieces of research to a common path.

I am thankful to the TWR Network for offering an inspiring occasion for knowledge exchange between the academic and professional communities. The III TWR Conference was for many of the attendees the first in-person large gathering after the COVID-19 pandemic. The enthusiasm for engaging in physical interactions across borders and disciplines was clear in the large participation that the event obtained. A special thank you goes also to the *Journal of Corporate Real Estate* for making important research outcomes available to an even broader community in the years to come.

Finally, I would like to acknowledge all the authors and reviewers for their diligent participation in the double-blind peer review process. On the one hand, all the authors presented original investigations described concisely and meticulously and were always available to address remarks. On the other hand, all the reviewers provided constructive feedback making sure that the authors could effectively improve their work. This is a remarkable collection of insights that keep adding value to the preceding two special sessions dedicated to TWR by the *Journal of Corporate Real Estate*.

Enjoy the read!

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