"More than meets the eye": Unveiling the full potential of creative workspaces in modern organisations

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Abstract

Providing adequate workspaces for employees is now considered crucial for organisational innovativeness in light of evidence that the work environment influences creative behaviour. It is unsurprising, then, that companies increasingly seek to implement modern workspace designs based on what is often referred to as New Work to support employee creativity. However, designing, planning, and implementing a modern and creative workspace is a highly complex undertaking. Existing studies report a multiplicity of interconnected organisational variables affected by such changes at the levels of the individual employee (e.g. creativity), the team (e.g. communication) and the organisation (e.g. culture). To explore whether and how organisational changemakers consider these variables when designing creative workspaces, we interviewed 20 experts from companies that have recently implemented creative workspace designs, asking them about the objectives and consequences of their new workspace designs. Upon comparing the interviewees' answers to the findings reported in the existing literature, we found that their organisations were not fully aware of the organisational impact of such changes and failed to consider creativity enhancement as an explicit goal. Concluding that much of the potential of modern workspace design remains untapped, we propose avenues for further research.

Introduction

Startup firms around the world provide video games, indoor golf, table tennis and similar amenities to enhance employees' workplace experiences (Meyer, 1999). Such initiatives are increasingly adopted by established firms to improve employee responsiveness and productivity and to promote an innovation culture (Hackl et al., 2017). These changes are partly driven by megatrends, including an ageing society, that alter the employee age structure and traditional ideas about life and work as individuals pursue security, prosperity, balance and self-determination (Cole et al., 2014). Furthermore, a greater emphasis on the work–life balance (Haar, 2007; Russell et al., 2009) entails changes in corporate culture and greater individual control over work duration, place and time.

Digitisation and the increasing role of knowledge and creative work have also changed how employees work, and organisations have realised that the traditional physical work environment (PWE) may no longer support efficiency, effectiveness and innovation (Goodrich, 1986; Hoff & Öberg, 2015). The PWE must provide the necessary space and equipment to support entrepreneurial activities, as various design elements, such as furniture (Elsbach & Pratt, 2007; Dul et al., 2011), spatial arrangements (Sundstrom et al., 1980; Toker & Gray, 2008; Zalesny & Farace, 1987) and spatial density (May et al., 2005; Oldham et al., 1991), influence employee perceptions and use of the working environment (Kristensen, 2004).

In the broadest sense, all the changes described above can be summarised under the generic term Workplace Innovation (WPI) (Prus et al., 2017). In the literature, WPI is a multifaceted concept (Balkin et al., 2001; Rus et al., 2019; Oeij et al., 2021) and generally refers to the modernisation of the work environment at different levels, which leads to an overall improvement at the employee level and adds value to the organisation (Eeckelaert et al., 2012; Howaldt et al., 2012; Prus et al., 2017). WPI also includes the PWE, a powerful and strategic tool for supporting desired organisational changes (Schriefer, 2005; Oeij, 2015). In recent years, the term New Work has become increasingly popular to describe modifications in the PWE that encompass changes in culture (Barley et al., 2017), technology (Malone, 2004; Williams, 2008), productivity and efficiency (Berniker, 1994; Collins, 1998) and organisational behaviour (Berniker, 1994). Although it is among the most extensively studied topics in economics and the social sciences (Gerards et al., 2018; Senge, 1990; Williams, 2008), there is still no scholarly consensus on the exact definition and details of the concept of New Work (Stoepfgeshoff, 2018). In the media and employees' daily lives, the term is most often associated with creative workspaces and tends to be used in a highly general manner to describe current trends in PWE design (Gerards et al., 2018).

In the modern workplace, employees must be able to switch flexibly between team-based and individual work and between concentrated work and relaxation. To meet these requirements, organisations are increasingly redesigning the PWE to provide creative workspaces (Hoff & Öberg, 2015) characterised by a range of spatial types (e.g. personal, collaboration, presentation, maker and social/fun spaces), spatial qualities (e.g. knowledge processing, indicator of organisational culture, process enabler, social interaction and

stimulation) and flexibility (i.e. the time and effort required to change the space to undertake different activities) (De Paoli & Ropo, 2017; Meinel et al., 2017; Thoring et al., 2018). Creative spaces are thought to shape behaviours through symbolic and cultural artefacts (Rafaeli & Vilnai-Yavetz, 2004) and subjective experiences of space (Ropo et al., 2015). Unlike the more conventional PWE, creative workspaces support employee innovation by conveying a sense of freedom and spatial flexibility (Ropo et al., 2015).

Google, Facebook and Apple have received extensive media attention as exemplars of PWE redesign, prompting many other companies to jump on this bandwagon to remain competitive and innovative (Thoring et al., 2018). However, according to Stegmeier (2008), attempts to implement creative workplace concepts often fail because of employee resistance, as management focuses on costs and productivity while employees experience loss and grief (Brunia & Hartjes-Gosselink, 2009). Moreover, little is currently known about companies' goals when pursuing these initiatives or the perceived effects after implementation (De Paoli & Ropo, 2017; Inalhan, 2009). Brennan et al. (2002), Moultrie et al. (2007) and Van der Voordt (2004b) are among the few studies of firms' strategic intentions and their consequences. For example, Brennan et al. (2002) examined the effects of relocating from a conventional work environment to a creative workspace in terms of employee satisfaction, perceived physical stressors, team member relations and perceived job performance.

In general, creative workspaces should facilitate flexible and dynamic work, independent of place and time, supporting creative and innovative activities without diminishing employee satisfaction or undermining job performance (Moultrie et al., 2007; Van der Voordt, 2004b). To date, however, there is no holistic framework for the optimal implementation of New Work principles, as studies of the effects of creative workspaces have tended to focus on isolated variables (Bjørnstad et al., 2016; Hoff & Öberg, 2015). For example, in their study of the effects of ventilation noise, air temperature and lighting on employee performance, Hygge and Knez (2001) reported that these variables can have varying effects on performance.

Given the cost, effort and time involved in implementing creative workspaces (Brennan et al., 2002; Carlopio & Gardner, 1992; Thoring et al., 2018), researchers have repeatedly called for further studies to clarify how workspaces designed according to New Work principles can be successfully implemented and managed (McElroy & Morrow, 2010; Moultrie et al., 2007; Thoring et al., 2018). In this article, we contend that firms are not fully aware of the effects (positive or negative) of implementing creative workspaces. To investigate companies' goals and the perceived effects of redesigning a conventional workspace according to New Work principles, we posed the following research questions:

1. What does the existing literature have to say about the consequences of introducing creative workspaces?
2. What organisational goals inform the introduction of creative workspaces?

3. What are the perceived effects of introducing creative workspaces during and after implementation?

To answer these questions, in the next section, we reviewed recent literature on workspace innovation. Then, we describe the design of our empirical study and provide an analysis of the interview data. Finally, we discuss our findings and identify directions for further research.

Theoretical background

The Physical Work Environment (PWE)

The office environment is a complex and dynamic system (Goodrich, 1986) and constitutes the second largest financial overhead (after human resources) for most organisations (McCoy, 2005). Defined as the combined forces and factors that impact employees at work, the office environment comprises two interdependent components: the social-organisational system and the physical system (Dul et al., 2011; Goodrich, 1986). According to Dul et al. (2011), the social-organisational system encompasses (1) organisational factors (e.g. culture and Human Resources), (2) team factors (e.g. group composition) and (3) job-level factors (e.g. autonomy and leadership). The physical system includes (1) the PWE, (2) design elements (e.g. building structure, views and daylight) and (3) modern technology to support communication, collaboration and effective decision-making.

The changing nature of work means that PWE provisions have been placed under increasing scrutiny, and a growing number of organisations are moving from conventional fixed workspaces to more open shared workplaces (Vos & Van der Voordt, 2001). These new creative workspace concepts can save space, reduce general and technical service costs, and encourage employees to use the new work environment more flexible (De Croon et al., 2005). With the increasing importance of knowledge work, creative workspaces are considered to promote new and innovative ideas, thus contributing to an organisation's productivity and success. Creativity drives innovation, and creative workspaces contribute to organisational innovativeness (Amabile et al., 1996). Therefore, contemporary PWE design addresses employees' physical and psychological needs as well as the organisation's functional needs (Dul & Ceylan, 2014). To that end, the creative workspace must incorporate (1) appropriate design elements (e.g. furniture, equipment, plants and aesthetic objects), (2) appropriate interior architecture (e.g. size, complexity, colours and materials) and layout (e.g. spaces for individual or team-based work) and (3) appropriate ambient conditions (e.g. light, sound, temperature and air quality) (Davis, 1984; Dul & Ceylan, 2011; Dul et al., 2011; Hoff & Öberg, 2015).

The increasing interest in creative workspaces has prompted a wide range of initiatives to stimulate creativity and innovation (Van der Lugt et al., 2007), which typically involve diverse workspaces that meet specific job demands and work styles. According to Brookes and

Kaplan (1972) and Vos and Van der Voordt (2001), these designs address the following three dimensions: location, layout and use. Furthermore, several researchers have noted that new workspaces are becoming more personal by addressing individual preferences and comfort while also supporting social, collaborative and team interactions (Lewis & Moultrie, 2005; Van der Lugt et al., 2007). Simultaneously, creative workspaces seek to encourage individual and team creativity (Amabile & Conti, 1999; McCoy, 2005). At the individual level, for example, creative workspace arrangements provide opportunities for concentrated work (Dul & Ceylan, 2014) and individual mental breaks (Lee, 2016), while team creativity is facilitated by facilitating formal and informal collaboration and communication (Hoff & Öberg, 2015), knowledge transfer (Toker & Gray, 2008) and relaxation in leisure areas (Vithayathawornwong et al., 2003).

Thus, organisations typically provide a mix of core functional spaces for individual and team activities as well as social hangout spaces. As most of these spaces can accommodate several functions, organisations can adjust their size (Alencar & Bruno-Faria, 1997; Hoff & Öberg, 2015; McCoy & Evans, 2002; Vithayathawornwong et al., 2003), layout (Hoff & Öberg, 2015; Martens, 2011; Steiner, 2005; Toker & Gray, 2008; Vithayathawornwong et al., 2003) and equipment (Ceylan et al., 2008). To ensure flexibility, organisations make deliberate use of intangible and tangible office elements (Meinel et al., 2017). Intangible elements include lighting and daylight (Bjørnstad et al., 2016; Dul & Ceylan, 2014), ventilation and temperature (Brennan et al., 2002; Hedge, 1982), colour (Ceylan et al., 2008) and acoustics (Hoff & Öberg, 2015), whereas tangible elements include plants and windows (Bjørnstad et al., 2016), furniture and technology (Brewer et al., 2007), decorative elements and materials (Byron & Laurence, 2015; Ceylan et al., 2008) and sliding doors and walls or movable partitions (Hoff & Öberg, 2015). These flexible settings support different work modes that can be tailored to individual requirements, balancing interaction and privacy (Rücker et al., 2022).

The impact of the creative workspace

Researchers have increasingly focused on how creative workspaces impact employee and organisational outcomes (Bryant, 2012; Davis et al., 2011; Zagenczyk et al., 2007). Recent studies have investigated workspace design parameters and their effects on organisational variables (Carlopio & Gardner, 1992). Although existing findings encompass physical and mental effects, social effects and performance effects, there is no systematic overview of all the different effects of various workspace designs.

Physical and Mental Effects

In general, physical and mental effects are influenced by the presence of certain physical factors (Carlopio & Gardner, 1992). The relevant physical and mental parameters of the creative workspace can be divided into four distinct subcategories: environmental perception, behaviour and reactions, well-being and attitudes to work.

Environmental perception. Several scholars have investigated employees' perceptions and subjective experiences of environmental factors, including temperature, illumination, ventilation and noise levels (Evans & Johnson, 2000). All these authors concluded that environmental factors affect employees' perceptions of the work environment and reported perceptual differences related to gender (Hedge, 1986), one's hierarchical level within the company (Zalesny & Farace, 1987) as well as location, view and task (Stone & Irvine, 1994).

Behaviour and reactions. This subcategory includes changes in employee behaviours and habits. For instance, Brewer et al. (2007) found that in work environments newly equipped with furnishings and technology, employees who are enthusiastic about technology spend more time in the office. Burke (1990) reported that equipment breakdowns or dissatisfaction related to temperature, lighting and/or noise levels were associated with increased smoking and consumption of coffee, alcohol and/or medication. Investigating the use of height-adjustable workstations and the option to work either standing or sitting, Neuhaus et al. (2014) noted that the possibility of working in both modes affected employees' satisfaction and reduced sitting time.

Well-being. This subcategory of physical factors includes employee feelings, emotions and moods (Byron & Laurence, 2015; Knight & Haslam, 2010; Shibata & Suzuki, 2004; Wells, 2000) and health (Bjørnstad et al., 2016). In general, the functional, inspirational and psychosocial support provided by creative workspaces has been found to enhance employee well-being and health, while less supportive workspaces are associated with poorer well-being and health (Bjørnstad et al., 2016; Burke, 1990; Hoff & Öberg, 2015). Tangible elements, such as personal objects (e.g. plants, pictures and photographs), can enhance or undermine employee feelings and moods by serving as reminders of values and goals, helping draw clear boundaries between private and business matters or creating a distraction (Byron & Laurence, 2015; Wells, 2000).

Office personalisation may also indirectly contribute to reduced stress or depression and improved physical health by increasing employee satisfaction with the creative workspace (Wells, 2000). Similarly, intangible elements, such as temperature, air quality, lighting, colour and noise, can enhance (or undermine) employee well-being (Burke, 1990; Knez, 1995; Küller et al., 2006; Kwallek & Lewis, 1990; Salin, 2015). For instance, Bjørnstad et al. (2016) found a link between natural workspace elements (e.g. daylight or windows with a view of nature) and reduced job stress, fewer health complaints and fewer sickness absences. By contrast, workplaces with poor light, temperature or air quality, higher noise levels and/or smaller room sizes tend to be negatively perceived (Ketola, 2004) and may lead to increased employee absenteeism, emotional exhaustion, physical health problems and stress (Burke, 1990; Hedge, 1986; Ketola, 2004).

Attitudes to work. There is some evidence that creative workspaces influence organisational identification (Knight & Haslam, 2010), trust in management (Zalesny & Farace, 1987) and work attitudes (Brewer et al., 2007).

Employees perceive creative workspaces equipped with plants, pictures or window views as supportive and consider them to be an expression of the organisation's appreciation for their work, thus increasing employees' loyalty to the organisation and enhancing their attitudes to work. However, moving from a conventional office layout to an open-plan office design can undermine employees' trust in management (Zalesny & Farace, 1987). Physical elements may also impact employee task engagement (Oldham & Brass, 1979; Zalesny & Farace, 1987); for example, working in an office decorated with plants and pictures can make workers feel more autonomous and more involved in their tasks (Knight & Haslam, 2010).

There is conflicting evidence regarding task involvement; for instance, while Oldham and Rotchford (1983) and Zalesny and Farace (1987) found that task significance and task identification increased in open-plan offices, Oldham and Brass (1979) reported reduced task significance and task identification in similar settings. More generally, task identification and task significance depend on self-assessment and the importance of one's tasks as perceived by colleagues in an open workspace (Oldham & Brass, 1979; Zalesny & Farace, 1987).

Certain physical elements also impact employees' abilities to work. For example, Hoff and Öberg (2015) found that work performance is enhanced by ergonomic tools and furniture, distraction-free spaces, adequate space and lighting, and adjustable spaces and furnishings. Mental work capacity is enhanced by less restlessness, fewer noisy coworkers and more comfortable working positions and temperatures (Tuomi et al., 1997).

Social effects

Researchers have also investigated the social effects of creative workspaces, including changes in workplace relationships, collaboration and communication (Brewer et al., 2007; Byron & Laurence, 2015; Wells, 2000) as well as privacy effects (Carlopio & Gardner, 1992; Zalesny & Farace, 1987).

Privacy. Several studies have reported that privacy decreased following a move from mainly enclosed offices to an open-plan layout characterised by increased noise, more distractions, higher workplace density and crowding (Oldham, 1988; Oldham & Rotchford, 1983; Sundstrom et al., 1980). More specifically, employees in open-plan offices reported reduced communication privacy (Carlopio & Gardner, 1992), visual privacy (Hedge, 1986) and task privacy (Brookes & Kaplan, 1992; Sundstrom et al., 1980).

Relationships at work, collaboration and communication. Information exchange, friendship opportunities and supervisor feedback are perceived to be worse in open workspaces (Brennan et al., 2002; Oldham & Brass, 1979; Zalesny & Farace, 1987), and the potential for conflict is considered to be higher in crowded or noisy open-plan offices (Oldham &

Rotchford, 1983). In general, workplace social life is enhanced by personalisation and appropriate opportunities for interaction in team spaces and lounge areas, while the absence of these elements tends to have negative effects (Brewer et al., 2007; Byron & Laurence, 2015; Vithayathawornwong et al., 2003; Wells, 2000). Bjørnstad et al. (2016) found that plants and views of nature enhanced the social climate at work, and personalised objects, such as photographs, children's paintings or certificates, can enhance work relationships by helping initiate conversations and facilitating communication, although such objects may sometimes create negative impressions (Byron & Laurence, 2015).

Performance

Creative workspaces have also been found to influence overall work performance (Dul & Ceylan, 2014; Hoff & Öberg, 2015) and creativity (Ceylan et al., 2008; Lee, 2016; McCoy & Evans, 2002).

Performance/productivity. There are three main findings in relation to performance and productivity. First, some studies of the move from enclosed physical work environments to more open and modern workspaces have reported a perceived decline in overall performance or productivity (Brennan et al., 2002; Brookes & Kaplan, 1972; Hedge, 1982; Zalesny & Farace, 1987) due to distractions and concentration difficulties associated with reduced privacy and higher levels of noise, crowding and employee density (Brennan et al., 2002; Hedge, 1986; Oldham & Rotchford, 1983; Sundstrom et al., 1980; Zalesny & Farace, 1987).

Second, there is evidence that certain physical factors can enhance or undermine performance and/or productivity (e.g. Byron & Laurence, 2015; Hedge, 1986). More specifically, a flexible, balanced layout with appropriate furniture, plants, window views, lighting, and relaxing and stimulating colours can enhance social interaction and idea generation, while objects of aesthetic interest can support productivity (Byron & Laurence, 2015; Stone & Irvine, 1994; Knez, 1995). Conversely, the absence of these elements may contribute to lower productivity (Byron & Laurence, 2015; Hedge, 1986). There is also some evidence that employees in a creative workspace may be able to ignore any distracting physical elements by focusing exclusively on their tasks (Hygge & Knez, 2001; Kwallek & Lewis, 1990).

Finally, employee productivity depends on workspace functionality, which includes flexible and balanced layouts for different modes of working, appropriate technological support and spaces for idea generation (Brewer et al., 2007; Lee, 2016). By contrast, inadequate functionality and support (e.g. poor illumination and dark wall colours, as well as overheated spaces) tend to reduce employee performance and productivity (Hoff & Öberg, 2015; Oldham & Rotchford, 1983; Wyon, 1974).

Creativity. Creative workspaces are known to influence idea generation and the execution of creative tasks, both directly and indirectly (Dul & Ceylan, 2011; Stokols et al., 2002;

Vithayathawornwong et al., 2003). A functional and inspiring psychosocial workspace that incorporates appropriate structural elements, along with a flexible, balanced layout that enhances social interaction and idea generation, objects of aesthetic interest (e.g. books, lamps and artworks), plants and natural materials, a view to nature or a view to the neighbouring interior environment, and technology support (Ceylan et al., 2008; Lee, 2016; McCoy & Evans, 2002; Shibata & Suzuki, 2004; Stone & Irvine, 1994), can directly impact employee creativity (Dul & Ceylan, 2011; Dul et al., 2011; Hoff & Öberg, 2015). A good physical indoor climate, positive smells (e.g. fresh air) and positive sounds (e.g. music and silence) can also enhance creative performance (Dul & Ceylan, 2011; Dul et al., 2011). Beyond these direct effects, indirect influences on creativity include a positive social climate with minimal distractions and conflicts (Stokols et al., 2002; Vithayathawornwong et al., 2003). Conversely, the use of materials such as steel, carpets or cool colours may inhibit creativity (Stokols et al., 2002; Vithayathawornwong et al., 2003).
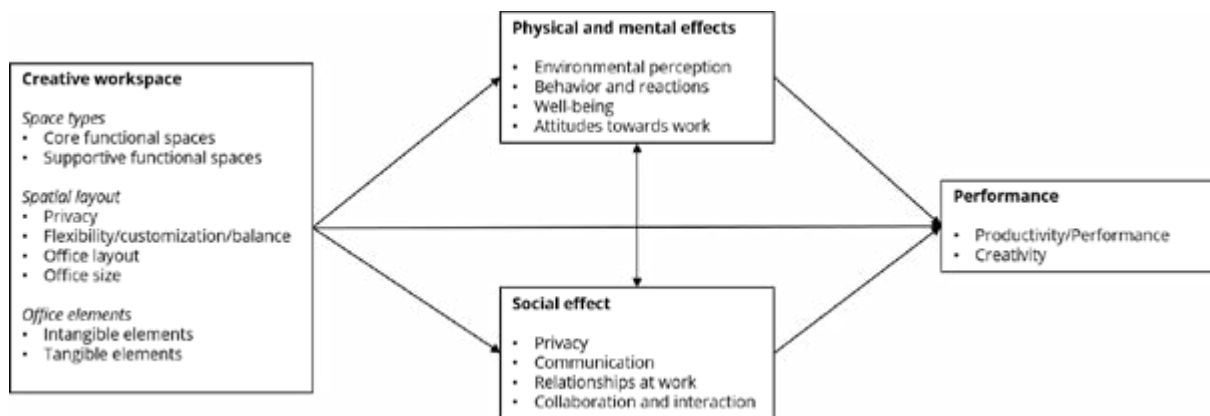

Figure 1: Impacts of the creative workspace as reported in the existing literature

Methodology

Research design

We employed a qualitative approach to investigate whether the effects of creative workspaces as reported in the literature reflect current business practices. To trace behaviour patterns and draw comparisons, we selected 20 experts from 20 organisations who were responsible for developing creative workplaces for their companies. This approach is appropriate when the research question is exploratory in nature (Eisenhardt & Graebner, 2007; Yin, 2009), as was the case in our study, and it enabled us to build on existing knowledge.

Data collection

We interviewed the participating experts over a period of three months. The dataset was heterogeneous in a number of ways. We selected firms from multiple sectors, including finance, sports, electronics, information and communication technologies, energy, transportation, mechanical engineering and health. The organisations also differed in size and internal structure. Moreover, the interviewees differed in terms of their competencies and organisational roles. However, all the experts interviewed represented management's views of the organisations. We distinguished between top-level management ($n = 6$), middle-level management ($n = 13$) and lower-level management ($n = 1$). Table 1 provides more information on the sample.

The interviews were conducted over the telephone and recorded. The average interview duration was 45 minutes. As we were interested in the experts' verbally expressed knowledge, the telephone was considered an appropriate medium. To ensure their willingness to provide relevant information, the participants were assured that the data would be completely anonymised.

The interview guide was based on the conceptual model proposed by Moultrie et al. (2007). Following the guide-based methodology of open questions and a flexible structure, our five-part interview process facilitated exploratory enquiry and allowed for new insights to emerge (Kasabov, 2015). The first part of the interview included general questions about the organisation and the expert's field of activity. The second, third and fourth parts included questions about the process of workplace reorganisation and creativity in the organisation. Finally, the interviewees were asked to assess the potential of the transformed workplace in terms of work performance.

Table 1 Details of the interviewed experts

Expert	Position	Industry sector	Company category (staff headcount)
1	Top-level management	Manufacturing	Micro
2	Middle-level management	Service industry	Medium-sized
3	Middle-level management	Manufacturing	Medium-sized
4	Middle-level management	Service industry	Large
5	Middle-level management	Service industry	Large
6	Middle-level management	Service industry	Large
7	Middle-level management	Service industry	Large
8	Middle-level management	Service industry	Large
9	Top-level management	Service industry	Large
10	Middle-level management	Manufacturing	Large
11	Top-level management	Service industry	Large
12	Top-level management	Service industry	Large
13	Top-level management	Service industry	Large
14	Middle-level management	Service industry	Large
15	Middle-level management	Service industry	Large
16	Middle-level management	Service industry	Large
17	Top-level management	Manufacturing	Large
18	Lower-level management	Service industry	Large
19	Middle-level management	Manufacturing	Large
20	Middle-level management	Service industry	Large

Micro: < 10 employees | Small: < 50 | Medium-sized: < 250 | Large: > 250

Data analysis and reliability

Following the telephone interviews, the recordings were transcribed (Krippendorff, 2013; Miles & Huberman, 1994), and a content analysis was performed (Miles & Huberman, 1994). Using a systematic rule-led approach to ensure intersubjective verifiability (Eisenhardt & Graebner, 2007), we derived inductive categories (Gioia et al., 2013) directly from the material, transforming the textual material into coding units (smallest usable text passages). In this way, we could identify similarities, differences and patterns without reference to existing theories (Miles & Huberman, 1994). To reduce the number of features of categories we summarised similar categories using the method described by Gioia et al. (2013). This gradual process of categorisation facilitated the iterative structuring of the data in line with our research objectives.

Results

Objectives of creative workspaces

Table 2 summarises the perceived objectives of workplace transformations in the participants' companies. The interview quotations that follow serve to clarify what these differing goals mean.

Objectives	Subcategory	Frequency*
Physical and mental goals	Increase employee satisfaction	5
Social goals	Support cultural change	10
Performance goals	Support work processes (spatial effectiveness)	18
	Financial performance (spatial efficiency)	9
Strategic goals	Employer branding	18
	Move	17

*Multiple answers by the same interviewee were possible

Physical and mental goals

As employees spend most of their day in the office, a creative workplace should engender a positive atmosphere that *increases satisfaction and supports task completion* (n = 5), encouraging an entrepreneurial approach and new ways of thinking. A supportive climate of this kind ensures that employees feel comfortable and enjoy their work.

> I have to assume that I will spend almost all day in this environment. As we spend more time in the office than at home, the aim was to develop a pleasant ambience in the [work] environment. The expectation is that if employees feel comfortable, they will also be satisfied and will enjoy their work. (Interviewee 1)

Clearly, employee satisfaction alone is not the desired outcome; rather, the key economic driver is that satisfied employees tend to be more productive (on average), and companies can support this effect by providing a modern workplace.

Social goals

Among the stated social objectives for implementing creative workspaces, 10 interviewees referred to *cultural aspects*, including transparency, communication, flat hierarchy and peaceful relationships. Several interviewees emphasised that corporate cultural values should be reflected in workplace design and that these core values should be identified and communicated to architects.

> We oriented our design to our values, and we tried to map our different identities in the house in terms of the design. (Interviewee 4)

Taking corporate values into account when designing a creative workspace was seen to have a culture-reinforcing effect, channelling a spirit of optimism and identification.

> We have a strong corporate identity, which is highlighted by the colours found throughout the building, helping every employee to identify with the company. (Interviewee 15)

Beyond a workspace design that acknowledges corporate values, employees must recognise, accept and live those values to make that culture a reality.

Performance goals

There was a strong consensus (*n* = 18) that *work process support* (*spatial effectiveness*) is the most important goal of creative workspaces. In particular, the workspace should support company-specific working methods in a user-oriented manner and should be sufficiently flexible to accommodate any emerging changes.

> The most essential goal was to provide a more flexible workplace arrangement because project workspaces are highly dynamic rather than static, which means that we may need to rebuild teams within a week. (Interviewee 5)

A majority of the interviewees (*n* = 9) also referred to improved spatial efficiency as a performance goal by increasing overall flexibility and cost efficiency through better use of space. In general, the interaction of *spatial efficiency* and *cost efficiency* is likely to improve *financial performance*.

> We have a tool in which we enter the number of persons, and then it tells us what we need to consider in terms of rooms and space. This typically achieves savings of 10 to 20 percent, and that's significant if you consider buildings across the world because real estate is one of the biggest cost drivers. (Interviewee 10)

Strategic goals

The most frequently mentioned strategic goal when implementing creative workspaces was *employer branding opportunities* (*n* = 18). A creative workplace presents the organisation in a positive light, both internally and externally. One beneficial outcome of having an improved image is an enhanced ability to attract and retain high performers, as ongoing competition with other organisations makes it important to retain and motivate good employees and to understand their needs.

> You have to make it [the workplace] attractive in every way for existing employees as well as for potential recruits. (Interviewee 4)

A creative workplace was also seen to support and strengthen brand positioning. By improving an organisation's image and performance, a workplace transformation can change existing perceptions as an element of corporate strategy.

> We sold things to the customer that we did not live by ourselves. For example, we sold virtual PBX (private branch exchange) and VoIP (voice over Internet protocol), but we still used desk phones with long extension cords. (Interviewee 20)

Another frequently mentioned strategic goal was the facilitation of a *move* (n = 17). To accommodate more people following economic growth or to consolidate locations, an organisation may decide to abandon the classic office structure in favour of a new configuration that helps change the existing culture.

> A second fact was that we grew a lot, with 60 percent more employees since the sale. That meant we also had to accommodate a lot more people who were working at different locations because there wasn't room for all of them in the old building. This made collaboration more difficult. (Interviewee 15)

Perceived consequences of implementing creative workspaces

Based on the above findings, we identified three perceived consequences of workplace transformation, which are summarised in Table 3.

Table 3 Perceived consequences of implementing creative workspaces

Perceived effects	Subcategory	Frequency*
Physical and mental	Well-being	19
	Environmental perception	16
Social	Communication	8
	Collaboration and interaction	5
	Relationships at work	2
	Initiation of cultural change	3
Performance	Productivity/performance	11
	Creativity	6

*Multiple answers by the same interviewee were possible

Physical and mental effects

Despite the initial skepticism, the interviewees confirmed an increase in employee *well-being* (n = 19) following the introduction of creative workspaces. In particular, changes in form, equipment and appearance, as well as collaboration options and team cohesion, contributed to this perception.

> We also assumed that we could increase employee satisfaction, and we succeeded. There was less space [...], but we had much better facilities than before. (Interviewee 8)

Moreover, employees who missed their desks and personal phones realised that they had gained a lot of functional space through workspace sharing. There were also more opportunities for communication, concentration and community building, which compensated for the initial stress.

> Everyone is afraid of change, which is why it has to be done carefully. We took the view that if we took something from people – for example, individually assigned desks – then we should give something back. We equipped them with iPhones and laptops and provided areas they can use for their own projects. And if you need to focus, you can use a think tank. (Interviewee 16)

Creative workspaces were also seen as changing the *environmental perception* (*n* = 16), both internally and externally. This refers to the use of specific physical elements, such as plants or individual colour concepts, to promote a positive atmosphere. A PWE that fosters inspiration, spontaneous encounters and small talk embodies thoughtfulness and care.

> To make the most of these opportunities, we wanted to be able to have more meetings and small talk, encountering each other as often as possible to talk and exchange ideas without booking meeting rooms. (Interviewee 5)

Some employees may be concerned about noise levels in open offices, which is a very sensitive topic. On the one hand, ambient noise can inspire employees by reminding them that they are part of a motivated team that is constantly exchanging and generating new ideas. On the other hand, employees sometimes find increased noise levels disturbing or stressful and are unable to concentrate on their tasks. The interviewees identified two coping options: organisations can introduce noise-reducing furniture and materials and employees can adjust their behaviours to strike the appropriate balance in line with privacy and work requirements.

> Acoustics is a very important topic. Looking at these photos, you can see that the office is very spacious. In an open-plan office, sound can travel relatively unchecked, and we've done a lot to improve that. (Interviewee 17)

Social effects

The interviewees referred to *communication* (*n* = 8), *collaboration and interaction* (*n* = 5) and *relationships at work* (*n* = 2) as key social effects that are closely related. Communication issues include the quality of instructions and the frequency of information requests. Collaboration and interaction influence teamwork and cooperation with co-workers or other company branches. Relationship issues with co-workers or customers include collegiality, social climate, social cohesion and bullying. To contribute positively to these social effects, a creative workspace must enhance interaction by providing opportunities for employees to come together. Elements such as team spaces, equipment, personalisation and lounge areas can exert a positive influence on social life at work. Conversely, if creative workspaces fail to support appropriate interactions, social relations may suffer.

> I do think that the new workplace design has a positive influence on creativity. The range of different rooms enables colleagues to meet more frequently, which promotes and improves communication and strengthens relationships. (Interviewee 2)

Three interviewees also referred to *cultural changes*, including the strengthening of corporate identity after the replacement of closed office structures by creative workspaces and shared spaces. The use of colour concepts, zoning and appropriate furnishings helped to communicate the corporate culture and the functionality of the different rooms. Desk sharing and regular changes of place were considered to encourage employees to get to know new colleagues and to become more familiar with different departments and topics, promoting cross-departmental exchange, transparency and identification. In addition, employees tended to work more often outside of regular hours and brought family and friends to see their new work environment.

> Yes, sometimes, I see colleagues in the house on weekends. Sometimes, I come on the weekend to show my workplace to visitors, and I always meet colleagues who are doing the same. You wouldn't do that in your free time if you didn't like going there. (Interviewee 15)

Desk sharing and the freedom to choose a workplace that suits them helps employees feel more autonomous and responsible. In a creative workspace, employees decide independently when and where to perform their tasks, which is a significant cultural change. In these circumstances, existing evaluation criteria become obsolete. Managers have to learn to lead on the basis of trust and results, which promotes employee empowerment and an internalised culture of accountability as employees take on more responsibility.

> Because we are currently undergoing cultural change. A culture of trying things out, where you are allowed to make an occasional mistake, is desirable; just don't repeat it

two or three times. This helps to shape a more modern way of thinking. (Interviewee 7)

Performance

Regarding work performance, the introduction of creative workspaces was seen to affect *productivity* (n = 11). To optimise work processes, different departments can be located in close proximity, thus improving communication and collaboration as well as spontaneous encounters, with shorter routes to meetings and quicker exchange of important information, all of which contribute to increased productivity.

> Let's assume that employees are then happier. A happy employee works more productively. (Interviewee 19)

Six interviewees also emphasised the importance of *creativity*; that is, the production of innovative ideas or the execution of creative tasks. Although creativity cannot be enforced, it can be supported or hindered by environmental factors. In this regard, the PWE can be understood as a platform that brings various stakeholders together to inspire and interact with one another. A creative workspace must combine emotional appeal and a high degree of freedom to support individual work, networking and collaboration involving diverse people and projects.

> So, there are a lot of room offerings that can promote creativity, perhaps because the synapses are doing something a little different. (Interviewee 6)

Discussion

The findings from our qualitative analysis reveal that companies implement creative workspaces for multiple reasons and that employee reactions to the implementation process were only partly anticipated. Table 4 summarises the key findings from the literature review, the qualitative analysis of the creative workspace goals and the perceived consequences of switching to a creative workspace. The key findings are reviewed below in relation to the literature on creativity-enhancing work environments.

Table 4 Perceived goals and impacts of creative workspaces

	Literature	Company objectives	Perceived consequences
Physical and mental perspective			
Environmental perception	✓	-	✓
Behaviour and reactions	✓	-	-
Well-being	✓	-	✓
Attitudes to work	✓	-	-
Employee satisfaction	-	✓	(✓)
Social perspective			
Privacy	✓	-	-
Communication	✓	-	✓
Relationships at work	✓	-	✓
Collaboration and interaction	✓	-	✓
Supporting/initiating cultural change	(✓)	✓	✓
Performance perspective			
Productivity/performance	✓	-	✓
Creativity	✓	-	✓
Support for work processes (spatial effectiveness)	-	✓	-
Financial performance (spatial efficiency)	-	✓	-
Strategic perspective			
Employer branding	-	✓	-
Move	-	✓	n/a

Note: ✓ = addressed; (✓) = partially addressed; - = not addressed.

Physical and mental perspective. Our findings align with previous reports that companies change their work environments to enhance employees' environmental perceptions and well-being. According to Dul and Ceylan (2011) and Hoff and Öberg (2015), a creative workspace that enhances employee creativity and productivity is also likely to enhance well-being and environmental perceptions. In particular, the presence of plants and window views of nature

is associated with a more positive environmental perception as reported by Tuomi et al. (1991) and Bjørnstad et al. (2016).

Surprisingly, companies seem to consider only improved employee satisfaction when planning to implement creative workspaces, and most of the research on workplace design is related to this issue (Kegel, 2017). Our findings indicate that corporate real-estate managers fail to take account of the full range of relevant issues when designing creative workspaces. Furthermore, our empirical findings are in line with the literature on workplace transformations, which highlights the relevance of changes in employee behaviour (e.g. Burke, 1990) and attitudes to work (e.g. Brewer et al., 2007).

Social perspective. Our findings also confirm previous evidence on the role of creative workspaces in increasing communication, collaboration and interaction and in building closer relationships at work (e.g. Appel-Meulenbroek et al., 2011; Elsbach & Bechky, 2007). The present study also supports the findings of Eismann et al. (2021), who reported that participation and regular exchanges of ideas and information increase the likelihood of developing new and useful solutions. Therefore, it is surprising that none of our interviewees referred to these issues as explicit objectives of workplace transformation, despite extensive discussions in the literature (e.g. Brewer et al., 2007; Byron & Laurence, 2015). In this context, the only link between the interview data and the literature was related to the area of cultural change: corporate culture is a known driver of workplace transformation and company creativity (e.g. Barclay & York, 2001; Lamproulis, 2007; Lindahl, 2004; Wineman et al., 2009), and it seems clear that corporate real-estate managers must take greater care to ensure the compatibility of cultural and social aspects.

Corporate culture is also a crucial ingredient in maintaining employee privacy (Pitt & Bennet, 2008). In an environment where the potential for disturbance is high and privacy is low, negative impacts include employee dissatisfaction and poorer concentration, which, in turn, undermine productivity and creativity (Brennan et al., 2002; Oldham & Brass, 1979; Oldham & Rotchard, 1983; Sundstrom et al., 1980; Zalesny & Farace, 1987). According to Kim and De Dear (2013), this privacy-communication trade-off is a source of ongoing difficulty in creative workspaces, but the issue was not mentioned by any of the interviewees as either an objective or a consequence of implementing creative workspaces.

Performance perspective. Previous studies (Engelen et al., 2018; Haynes et al., 2019; Rolfö, 2018; Skogland, 2017) have reported that creative workplaces impact employee performance, and our interview data confirm this effect. The combination of open spaces and desk sharing facilitates frequent interaction and communication between employees, accelerating the flow of information and decision-making (Moultrie et al., 2007), while closed spaces support confidential and concentrated tasks that require greater privacy and fewer distractions (Maher & Von Hippel, 2005). This mix of spaces ensures the flexibility that individuals and teams need for collaboration, knowledge sharing and idea generation, prerequisites for productivity and creativity (Arundell et al., 2018; Suckley & Nicholson, 2018).

None of our interviewees mentioned improved employee creativity as a reason for the workplace change in their companies; instead, they cited organisational performance goals, such as process optimisation, cost efficiency and reduced set-up costs. Given that the workplace is a company's second-most expensive resource (McCoy, 2005; Steiner, 2005) and that more than half of all employees work outside the office (Steiner, 2005; Van der Voordt, 2004a), it makes sense to reduce workplace capacity as a means of improving company financial performance. From an employee perspective, however, this approach is counterintuitive (e.g. a lack of personalisation, a lack of feeling of control over the environment and identity threat) (Brunia & Hartjes-Gosselink, 2009), and companies need to ensure that work processes are properly supported to facilitate individual and decentralised ways of working (Steiner, 2005).

Strategic perspective. The present findings confirm that companies introduce creative workspaces for strategic reasons, such as strengthening and positioning the brand. According to Steiner (2005), a creative workspace affects corporate image and how a company is perceived by customers and potential recruits. However, this external focus risks neglecting internal issues, and Gorgievski et al. (2010) noted that corporate real-estate managers must also consider their current workforce's ways of working when making decisions about appropriate equipment and infrastructure. In this regard, our interview data suggest that workplace transformations may sometimes be driven by a lack of space and a need to relocate. Haner (2005) recommended that corporate real-estate managers should view such contingencies as an opportunity to transform workplaces into centres of creativity and innovation. In other words, the workplace should be an integral part of innovation strategy, and its design must actively support the flexible deployment and reconfiguration of resources and infrastructure (Moultrie et al., 2007).

Managerial implications and further research

Managerial implications

To the best of the authors' knowledge, this study is the first to provide empirical evidence regarding the experienced effects of creative workspaces. Unlike previous studies that typically focus on single objectives and effects, this article offers a holistic and structured overview by synthesising and categorising the organisational goals and perceived effects of creative workspaces. The existing literature acknowledges the complexity of these issues, and there is a need for increased organisational awareness when reassessing work environment design and use for enhanced creativity and innovation.

Our investigation of best-practice companies that have already implemented creative workspaces provides insights for business practitioners regarding implementation objectives and perceived consequences. Our findings confirm the challenges of workplace transformations and offer lessons for organisations considering this approach. The following

concrete takeaways may help such organisations fully exploit the potential of creative workspaces:

1. *Make creativity and innovation a strategic priority.* To ensure the effective design and use of creative workspaces, leaders must develop a coherent understanding of creativity and innovation management within the organisation, which should be anchored in corporate strategy. Although organisations attach great importance to these issues, none of our interviewees mentioned creativity and innovation in the context of strategic orientation.

2. *Develop a workspace strategy that fits your company.* To exploit the full potential of creative workspaces, we recommend that corporate real-estate managers and executive managers should systematically verify and reassess the experienced effects. Such workplace interventions require significant investment and planning, and our findings revealed that only a few organisations conducted a systematic retrospective evaluation of the new workplace.

3. *Corporate real-estate managers should focus on the workforce's physical, social and psychological needs.* To optimise support for employees' daily activities, we recommend that corporate real-estate managers consider strategic, performance-oriented, physical and social perspectives when introducing creative workspaces. The present findings indicate that although social processes are an essential element in the development of new and useful ideas, these processes tend to be neglected in the planning of creative workspaces.

4. *Think beyond the physical design.* To promote creativity, we recommend that corporate real-estate managers and executive managers continually monitor the socio-organisational impacts of physical workplace elements. A better understanding of such impacts will ensure a more purposeful workplace design and use, particularly in organisations that have failed to exploit the full potential of creative workspaces.

5. *Provide separate spaces for privacy and communication.* As preserving individual and team privacy is essential for creativity, we recommend that managers and employees develop and adhere to common rules of conduct. None of our interviewees mentioned privacy as either a consequence or an objective, but employees appreciate the opportunity to withdraw individually or as a team to work in a focused manner on new ideas.

It is clearly impossible to specify a generic ideal workspace for every individual and situation (Hedge, 1986). A creative workspace does not guarantee optimal work outcomes or creative ideas but provides the necessary support and inspiration for their emergence.

Further research

This qualitative study has several limitations. First, although the interviewees were carefully selected to ensure that all relevant topics were covered, the information they provided may have been influenced by their positions in the organisations. Further interviews and a survey approach could improve the quality and relevance of the information provided. Second, creativity was not necessarily a central characteristic of the participating companies, all of which were based in Germany. Future research should investigate national and international creative organisations to test the relevance of these findings across different cultural backgrounds. Third, the present findings concern organisations that have already implemented creative workspaces. Research conducted during the transformation process may provide more accurate insights. Finally, although this study offers a useful point of departure for future research, quantitative methods should be introduced to build on the present findings (Gioia et al., 2013) regarding design goals and the perceived effects of creative workspaces on creativity, productivity and health.

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