



**Change Your Space, Change Your Culture: Exploring Spatial
Change Management Strategies**

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Abstract

Purpose: The aim of the article is to explore use of, and challenges associated with, spatial change management strategies. This is done through a discussion on how spatial environments may be utilised to effect organisational change. The intention is to provoke new thinking on physical change initiatives and to challenge the often highly deterministic view regarding effects of contemporary workspace concepts.

Design/methodology/approach: The article is structured as a case study based literature review, drawing on literature from the fields of environmental psychology, organisational branding, corporate real estate and facility management – as well as organisational change management.

Findings: The study indicates that space management strategies may fail due to lack of understanding of how organisational events and other contextually specific aspects correlate with the physical change initiative. Succeeding with the spatial strategy therefore requires a strong focus on socio-material relationships and employee meaning making process during the spatial change process.

Originality/value: Contrary to the traditional and rational focus on functional space management strategies, the article takes a socio-material approach suggesting that there is a need for more empirically based research into the meaning making process and the role of human and organisational practices in the construction of new workplace concepts. Focusing on how organisational members understand and ‘make use of’ spatial environments may substantially improve organisations’ and building consultants’ abilities to strategically manage the physical change initiative and achieve the intended ends.

Keywords: Change management, Meaning making, Office environment, Workplace concepts, Symbolic space, New Ways of Working

1. Introduction

In an ever-changing, global and competitive business world, organisational and individual ability to adapt to change is tantamount in succeeding with overall business goals (Bridges, 2009).

Within organisational change management studies, it has repeatedly been claimed that about 70 per cent of all organisational change initiatives fail. Although this actual number has been criticised for its lack of validity and reliable empirical evidence (Hughes, 2011), it is commonly

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3 agreed that effecting organisational change in today's complex organisations is far from an easy
4 task.

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6 Focus on how organisational space may be used as a strategic management tool has
7 gradually evolved since the early 20th century, with the theory of scientific management as an
8 early and particularly strong contributor (Chanlat, 2006). Also well known and influential
9 scientists and practitioners during the first decades within the 20th century such as Henry Ford,
10 Walter Gropius and Le Corbusier all emphasised the power of space as a strategic management
11 tool (Kornberger and Clegg, 2004). Even Winston Churchill recognised the power inherent in
12 buildings, as he expressed in the often-cited quote:
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19 *"We shape our buildings; thereafter they shape us"*

20 (Winston Churchill, 1874-1965).
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23 The potential within physical space to affect change is essential, as *"architecture orders and*
24 *manages human activities"* (Kornberger and Clegg, 2004: 1100). *As the workplace is part of the*
25 *organisation's structure and culture, there has been a growing interest over the past decades on the*
26 *alignment of modern work processes and spatial environments (Myerson, 2012b; Duffy, 2005).*
27 *The objective is to effect organisational behaviour and meaning making processes and through*
28 *this influence New Ways of Working (NewWoW) (Aaltonen et al., 2012; Ruostela et al., 2014;*
29 *Meel, 2011).*
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35 Allen and Henn (2007) furthermore state that all organisations operate within spatial
36 environments, and most spatial environments have an organisational level. This is why all change
37 management should incorporate the organisational as well as the physical and technological level
38 (Chilton and Baldry, 1997; Robertson, 2000). Building on Lefebvre (1991)'s view that social
39 change is dependent on spatial change, Kuttner (2008) argues that effective organisational change
40 cannot be achieved without a parallel change in the physical workplace. Kampschroer (2008), on
41 the other hand, presents a more moderate view, arguing that organisational change is possible
42 without changing the physical context. However, the physical environment may be important to
43 accelerate or reinforce the desired change. This is further stressed by Tanis (2008: 11), who states
44 that *"space does not necessarily lead to transformation but it needs to support transformation"*.
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54 In other words, changes within the physical workspace may not necessarily in and by
55 themselves create organisational change, but may function as a forceful catalyst for effecting
56 change (Inalhan and Finch, 2012; Allen et al., 2004; Mosbech, 2003), and function as a spatial
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3 symbol of the wider organisational change initiative (Gustafsson, 2002). Contrary to this, if a
4 physical relocation is not regarded as strategically important, the opportunity may not only be
5 lost, but instead turn into a risk for the organisation (Christersson and Rothe, 2012).
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8 Despite the long-lasting recognition of the power of space, a range of researchers stress
9 that the physical space, as a means to effect organisational change, has been a highly neglected
10 business resource – this especially within the fields of organisational change and change
11 management (Shiem-shin Then, 2012; Vischer, 2012; Clegg and Kornberger, 2006a; Horgen et
12 al., 1999; Alexander and Price, 2012; Kampschroer and Heerwagen, 2005). More and more
13 organisations have, however, in recent years taken the lead and implemented a wide range of
14 spatial and symbolic strategies, aimed at guiding internal and external meaning making processes
15 and perceptions (Ropo et al., 2015). As contemporary workplace strategies are gaining more
16 attention, both researchers and practitioners have started to emphasise the importance of placing
17 the physical workplace on the managerial agenda – as a tool for effecting organisational change
18 and development (Shiem-shin Then, 2012; Vischer, 2012; Clegg and Kornberger, 2006a; Horgen
19 et al., 1999; Becker, 2002; Kornberger and Clegg, 2004; Pinder et al., 2012; Bell, 2006; Inalhan
20 and Finch, 2012; Kampschroer, 2008; Arge and de Paoli, 2000; Gustafsson, 2002; Nadler et al.,
21 1997; Baldry and Hallier, 2010; Allen et al., 2004; Bakke, 2007). A Nordic study addressing 150
22 managers from a variety of different organisations revealed that functional and symbolic
23 workplace strategies are commonly deployed as a strategic space management tool (Bakke, 2007).
24 Although the interest is increasing, Alexander and Price (2012) stress that use of space as an
25 enabler of strategic change still is the exception rather than the rule.
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29 The aim of the literature review is to explore contemporary use of space management
30 strategies, including, their possibilities, limitations and current challenges. The question to be
31 answered is: *what challenges might organisations face when attempting to impact change and*
32 *explicitly organisational members meaning making by spatial space management strategies?*
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36 37 38 39 40 41 42 43 44 45 46 **2. Methods**

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48 The literature discussed in this review article is mainly drawn from the fields of environmental
49 psychology, organisational branding, corporate real estate and facility management. Bringing an
50 organisational perspective to the study of spatial environments was additionally believed to be of
51 high value. Due to a general lack of interest within organisational studies of the value of space in
52 organisational processes (Inalhan and Finch, 2012; Finch, 2012; Chanlat, 2006; Clegg and
53 Kornberger, 2006b; Pepper, 2008; Alexander and Price, 2012; Berg and Kreiner, 1990; Taylor
54 and Spicer, 2007) findings presented from these fields of study are however limited.
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3 The review is furthermore based on a mix of quantitative and qualitative studies. As
4 qualitative case studies examine effects within a particular context – also including multiple
5 perspectives – they are useful in identifying challenges and gaps in the current literature
6 (Flyvbjerg, 2013). The discussion is therefore mainly based on qualitative case studies with an
7 applied research nature.
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11 The study was conducted in two main phases. During the first phase, a broad search was
12 conducted using the following main words and phrases: space management strategy, workplace
13 concepts and organisational change, strategic workplace change, functional and/or symbolic space
14 management. The collected theory was then, in the second phase, categorised into the main
15 categories of functional and symbolic space management strategies. Theory that did not fit in
16 either of these categories, nor included both an organisational and spatial perspective were
17 excluded. Due to the contemporary and applied nature of the research topic, the main bulk of
18 literature was obtained from publications published after 2000. References to publications earlier
19 than this, have been used only when regarded as particularly relevant to the discussion.
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28 **3. Strategies and Challenges in Contemporary Space Management Strategies**

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30 Change of behaviour may be conducted either through 1) informational strategies or 2) changes
31 within the structure where the behaviour occur (Gifford et al., 2011). Strategies such as
32 incentives, information, and different communication techniques are examples of informational
33 strategies often used within organisations to affect human behaviour (Cameron and Green, 2015).
34 Little attention has, however, been paid to the more unconventional structural strategies including
35 space, place, and context. Rather than ‘changing minds’ by persuasion, benefits in today’s
36 complex society may be achieved through changing the contextual structures – including the
37 spatial environment (Dolan and Britain, 2010).
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43 Focusing on space enable a multitude of ways in which people and organisations may be
44 affected. Building on Lefebvre (1991) conception of space as practiced, planned and imagined
45 Taylor and Spicer (2007) argue that an adequate theoretical foundation must account for multiple
46 interlinked spatial levels. The authors have thus identified three main approaches by which
47 organisational space may be understood and managed. First, space may be managed as functional
48 distance, meaning that space is a distance between two points. This approach focuses on the
49 physicality of organisational spaces and implies that the workplace layout may be objectively
50 represented and measured. The second conception treats space as materialisation of power
51 relations, meaning that rules, hierarchies, physical presence, social norms and organisational
52 practices are ‘visible’ both in the layout and in the access to spatial resources, therefore central in
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3 establishing and maintaining relations of power, structure and control. Finally space may be
4 treated as lived social experiences produced and completed by the imagination, experience and
5 meaning making process of the users. Different experiences therefore create different spaces.
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7 The following chapter will provide a brief overview of the main trends commonly used by
8 organisations to effect desired change. The discussion follows the three approaches defined by
9 Taylor and Spicer (2007). Alongside the discussion, three selected empirical case studies will be
10 elaborated on to highlight how the contextual situation and other circumstances may interplay
11 with the physical change initiative.
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18 **3.1 Utilisation of Functional Distance as a Space Management Strategy**

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20 With regards to employee behaviour, the vast majority of the literature on organisational space
21 has focused on how physical qualities and structures may be used to influence employee
22 behaviour and interaction. For example, Allen and Henn (2007) found that the probability of face-
23 to-face communication between employees declines precipitously with distance and reaches an
24 asymptotic level at around 50 meters. Probability of face-to-face communication is furthermore
25 reduced by 75% when employees with no work-related relationship are located in separate wings.
26 If located on separate floors there is only a slim chance of regular communication. Similar
27 findings are also retrieved by others (e.g. Olguín et al., 2009; Orbach et al., 2014).
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33 Building on this line of thinking, Stryker et al. (2012) found that face-to-face
34 communication may be enhanced by increased visibility and easy access to spaces for
35 collaborative opportunities. Kabo et al. (2013) further suggest that creation of common pathways,
36 meeting points and overlapping zones increase the probability of communication, collaboration,
37 knowledge sharing, and innovation. Hence, by connecting different areas such as meeting rooms,
38 coffee areas, workstations, rest rooms, copy rooms with the main walking paths, the organisation
39 may create a spatial layout based on interconnected functional zones, which in turn may enhance
40 face-to-face communication (Allen and Henn, 2007; Kabo et al., 2013; Waber et al., 2014; Stryker
41 et al., 2012). This view on functional distance is based on assumptions that physical proximity,
42 co-presence, visibility and face-to-face interaction are some of the most important activities in the
43 office and thus influential to social behaviour, interaction, awareness, knowledge sharing,
44 development of social networks and ultimately productivity (Allen and Henn, 2007; Kabo et al.,
45 2013; Waber et al., 2014; Heerwagen et al., 2004).
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54 Orbach et al. (2014) furthermore found that employees working in flexible seating
55 arrangements had a higher proportion of face-to-face contact compared to employees working in
56 fixed arrangements. Ultimately, increased visibility and co-presence in open workspace
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3 environments may positively affect knowledge sharing, non-verbal communication and awareness
4 (Appel-Meulenbroek, 2010; Allen and Henn, 2007; Orbach et al., 2014) as well as support and
5 affect the organisational interaction culture (Rashid et al., 2009; Peponis et al., 2007; Heerwagen
6 et al., 2004).

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9 The general findings that opening up and connecting space will lead to increased
10 collaboration have become widespread and dominant in the current literature. Using patterns of
11 distance and proximity as an overall concept for creating functional spaces does not only bring a
12 sense of simplicity to social interaction processes, but also enable organisations to strategically
13 use and manipulate the spatial environment in a highly controllable way. Space as functional
14 distance may therefore be regarded as the most manageable of the three perspectives, which also
15 in common practice has contributed to a strong tradition of this thinking (Duffy, 2005; Allen and
16 Henn, 2007; Taylor and Spicer, 2007). Notwithstanding the documented benefits, conflicting and
17 inconsistent findings from functional space management strategies such as 'opening up space' and
18 increasing path overlap have also been identified (e.g. Lansdale et al., 2011; Stryker et al., 2012;
19 Moenaert and Caeldries, 1996; Hatch, 1987) suggesting that the functional approach has its
20 limitations.

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22 This is especially well exemplified in a case study by Pepper (2008). The organisation
23 studied intended to promote internal and cross-departmental communication, creativity and
24 flexibility. The strategic change included use of an open floor plan with good sightlines, meeting
25 and collaboration places, strategically placed by the main routes, as well as the creation of
26 common pathways and zone overlaps. Additionally, activity-based rooms, a welcoming entrance
27 and other decorative design elements were implemented to create an enriched work environment.

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29 During the implementation of the new workspace, the company faced an economic
30 decline, resulting in redundancies and changes in the management structure. Although the
31 management had good intentions of providing a pleasurable work environment, the overall change
32 initiative failed in its attempts. Employees appreciated the aesthetic appearance, but the general
33 openness within the building seemed to be in contrast with the existing culture, norms, hierarchies
34 and social practices – ultimately preventing employees from using the spatial layout as intended.
35 Due to the coinciding organisational changes employees started to resent the new and 'costly
36 workplace', stating that it was a waste of money better spent on preventing redundancies.

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Being unable to separate their social experiences from the new workspaces, the facilities
became a negative representation and reminder of the loss of colleagues, a 'homely' culture and a
well-known management structure. The new workplace created equivocal messages, giving
members of the organisation the opportunity to simultaneously blame, explain and justify (Pepper,
2008). Consequently, as buildings may include a wide range of symbolic meanings affecting user

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3 perception and behaviour, change only in the functional structure may have its shortcomings and
4 may not be enough to influence the intended change. As indicated by Tsai (2002) organisational
5 aspects such as level of hierarchy and internal competition may mediate the effect of physical
6 proximity. Patterns of power and employee resistance may therefore limit the effects of the spatial
7 and functional structure. Also noted by Leaman and Bordass (2005); Leaman and Bordass (1999)
8 perceptions of the buildings' effect on productivity is mediated by the combination of spatial,
9 technical, social and organisational aspect. As the act of opening up space may be in conflict with
10 other organisational and socio-cultural aspects and practices, structural changes may not in and by
11 themselves be sufficient to reach the intended ends. Focusing on spatial outcomes alone, one risks to
12 remain blind to deeper causes and structures (Taylor and Spicer, 2007).
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21 **3.2 Symbolic Space: Materialisation of Power Relations as a Space Management Strategy**

22 As the physical environment is the most visible manifestation of an organisation's culture,
23 symbolic space may be utilised as a powerful spatial tool (Cooper et al., 2001; Gagliardi, 1990;
24 Knittel-Ammerschuber, 2006; Allen et al., 2004; Strati, 1999). This widely recognised fact has
25 received considerable attention in recent years – ultimately influencing a range of symbolic space
26 management strategies (Muetzelfeldt, 2006; Markus, 2006; Harrison and Dourish, 1996; Clegg
27 and Kornberger, 2006b; Chanlat, 2006).
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33 This symbolic power comes from the well established fact that the physical and social
34 environment affords human actions and behaviours (Gibson, 1979) and through different 'cues'
35 sends environmental messages (Becker and Kelley, 2004; Steele, 1973). In this perspective,
36 buildings function as symbolic artefacts reflecting and informing the audience about the
37 organisation, its structure and culture (Berg and Kreiner, 1990; Myerson, 2012b). Muetzelfeldt
38 (2006: 121) calls this the 'architectural power', i.e. the cues embodied in space that arrange
39 hierarchies and affects human perception and behaviour. Changes within allocation of different
40 spaces or resources may hence effect changes within the political culture and the power relations
41 within the organisation (Markus, 2006). Elsbach and Pratt (2007) also argue that display of
42 symbols and artefacts in the workplace may reinforce identity by affirming status or
43 distinctiveness, which may be reinforced through instrumental, aesthetic and symbolic aspects
44 (Vilnai-Yavetz et al., 2005).
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52 Empirically based research has found that symbolic and aesthetic aspects within
53 organisational space may provide a powerful possibility of differentiation (Danko, 2000; Khanna
54 et al., 2013), affect employee identification with the organisation, influence employee
55 engagement, empowerment and a positive work attitude (Marrewijk, 2010; Cairns, 2002; Duffy
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3 and Powell, 1997; Raymond and Cunliffe, 1997). Organisational space has furthermore been
4 found to create a sense of belonging (Allen et al., 2004), affect worker satisfaction, creativity,
5 mood and motivation (Bjerke et al., 2007), symbolise corporate values and mission, affect
6 employee perception of leadership and organisational structures as well as influence recruitment
7 and retaining employees (Danko, 2000). Enriched workplaces, compared to workspaces striped of
8 extraneous decorations, have also been found to positively affect employee concentration,
9 engagement, satisfaction and perception of own productivity (Nieuwenhuis et al., 2014).
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14 Also in a wider context, the location, area of the city or 'address' of the workplace have,
15 through its context related associations and affordances, been suggested to influence how
16 externals and employees view the organisation's capacity, position, values, image and identity
17 (Danielsson, 2014; Appel-Meulenbroek et al., 2010). However, in a world of rapid change, out-
18 dated office buildings may, by acting as an symbolic anchor to the past also constrain
19 organisations (Pinder et al., 2012).
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24 Ever since the early 20th century and the introduction of the scientific management
25 principle to office architecture, the traditional Anglo-American office tradition has mainly been
26 focused on impressing clients and expressing an image related to hierarchies and managerial
27 control. Physical cues in the form of glass, steel, high-rise office buildings with shiny facades,
28 status regulated office sizes and locations, type and quality of furnishings as well as different
29 labels have commonly been used to indicate status and reinforce organisational power relations
30 (van Meel and Vos, 2001; Khanna et al., 2013; Duffy and Powell, 1997; Becker and Kelley,
31 2004). The corporate image, displayed through architectural qualities, is also essential within this
32 tradition as it creates symbols of economic strength and prosperity (Duffy, 2008; Duffy and
33 Powell, 1997).
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38 Recently, this view has however started to change, leading to an increased emphasis on
39 space branding as a means of motivating and creating excitement about the workplace (Allen et
40 al., 2004). By introducing an enriched work environment, with variation and diversity in the
41 environmental conditions and symbolic cues, organisations may create beneficial working
42 conditions as well as sending messages of care and attention (Vischer, 2005; Nieuwenhuis et al.,
43 2014), thus creating feelings of sense of belonging and organisational identity (Zelinsky, 2002).
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48 Focus on symbolic power within organisational space, together with evolving
49 management theories, emphasising organisational values such as creativity, autonomy and fun
50 rather than hierarchies and managerial control, has resulted in development of a range of 'fun'
51 and corporate identity rich workspaces. The goal is to change traditional, often hierarchical
52 workplace structures and cultures, instead reflecting new ideas expressing a network based
53 culture that is youthful, daring and avant-garde – a product of the spirit of the age (van Meel and
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Vos, 2001; Baldry and Hallier, 2010; Warren and Fineman, 2007; Zelinsky, 2002). The aim is to create new structures in opposition to the former image of the workplace as controlled, hierarchical and limiting in what employees may do (Dale and Burrell, 2008).

Warren and Fineman (2007) present an illustrative example from an organisation attempting to emphasise such a 'modern' workplace. The strategy was executed by the creation of a playful workspace including; large Lego bricks, playful furniture, games, creative rooms with flexible module furniture, human sized 'Russian doll sculptures' and the like. The study, however, revealed that most employees reacted negatively to the new workspace. Employees regarded the attempts to create and enhance creativity to be highly superficial and did not understand why the 'fun', and as rumoured costly elements, could enhance creativity nor create a fun place to work.

A mismatch was created between employee perception and management ideas. The stated and symbolised promise of freedom and creativity offered by the new workspace was on the receiving end perceived to be in contrast with other management actions, company rules and regulations. The implementation of the 'fun' workspace also coincided with other budget cuts and staff layoffs. Employees were thus, due to cost arguments, denied more favoured aspects within the workplace such as a micro kitchen. Consequently, employees felt that the new spaces were 'forced down their throats' and that the message sent by the organisation was insulting, which further created resentment and resulted in inappropriate employee behaviour (Warren and Fineman, 2007; Warren, 2002).

Changing symbolic structures related to power relations poses a clear danger if one disregards the connections between the organisational structure and culture with the spatial expressions. This perspective overlooks the complex ways that inhabitants of spatial environments attach meaning to, and understands, different spaces.

3.3 Space as Lived Social Experience, the Creation of Meanings and Mental Images as a Space Management Strategies

Although challenges may occur, traditional workplaces are more and more being replaced with a range of open spaces with high symbolic focus. New trends in organisational branding have an increased focus on the workspace as a means of symbolising the organisations' values of social responsibility, reliability and sustainable image (Khanna et al., 2013), which further may be positively connected to employee identity (Leaman and Bordass, 2007).

Arguably, organisational metaphors may be framed and enforced through space (Kornberger and Clegg, 2004; Gagliardi, 1990) and function as 'narrative space' (Myerson, 2012a). Using narrative and storytelling techniques expressed through artefacts or internal

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3 branding has also been found to act as an effective support mechanism for change processes. The
4 narrative may guide employees in their everyday decision making processes, help them
5 understand the rationale for change, and communicate a message to an external audience
6 (Stegmeier, 2008; Danielsson, 2014). This is especially important as employees often relate and
7 behave according to narratives they have adopted about space (Airo and Nenonen, 2014). The
8 overall intention is to apply cues into the organisational space to affect a form of appropriate and
9 expected behaviour (Baldry and Hallier, 2010). **Supporting such conclusions, Duffy (2008) argues**
10 **that the management should regard the office environment as a powerful medium of**
11 **communication.**

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17 In practice, organisational artefacts, symbols and aesthetics are increasingly being used as
18 a legitimate way for management to pursue particular agendas, change actions and meaning
19 (Hancock, 2005). If managed the right way, symbolic use of space may increase the company's
20 value and be a powerful tool for strategic management (Bjerke et al., 2007; Khanna et al., 2013).

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23 An emerging field of research addressing and emphasizing use of cues and mental images
24 to positively affect human decision-making is the field of *choice architecture*, or more commonly
25 referred to as 'nudging'. Research on use of 'nudging' in the workplace **is yet sparse, almost**
26 **close to non-existing.** A notable exception, and pioneering example, is a Danish master thesis
27 (Øvsthus, 2014), examining how nudges may be used to change a negative organisational meeting
28 culture.

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33 A more commonly used strategy is to apply mental images of 'pleasant' places related to
34 the outside community, and by this emphasise issues related to social bonds, responsibility and
35 commitment. Such mental images, are often created by the use of names, 'labels' and design
36 elements traditionally connected to social places such as squares, plazas, lounges, malls,
37 neighbourhoods, park etc. (Dale and Burrell, 2008; Baldry and Hallier, 2010; Khanna et al.,
38 2013). By bringing spaces traditionally associated with the outside world into the office, this
39 activates feelings and associated emotions, purposely blurring boundaries between the outside and
40 the inside, work and private time, as well as between old and new ways of working (Taylor and
41 Spicer, 2007).

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47 An illustrative example of this may be taken from the company Airbnb, **which has** made a
48 conference room bookable through the Airbnb website – free of charge for anyone **to use.** This
49 way, the organisation deliberately uses space to send an internal and external message,
50 emphasising their open and sharing philosophy and culture (Waber et al., 2014). Also when
51 introducing new forms of flexible, ad-hoc and non-territorial workplace concepts, these
52 'different', and for many radical, ways of organising activities in spaces are used as a form for
53 storytelling. Ultimately, the organisation's aim is to send a symbolic message of being a
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3 contemporary and professional organisation – responding to changing conditions and stimulating
4 to NewWoW (Van der Voordt, 2004; Bakke, 2007). Through the creation of spatial narratives,
5 spatial assets are used for branding purposes (Myerson, 2012b).
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8 The aesthetic and symbolic qualities are, however, in a mediating process between the
9 different objective artefacts and the subjective domains of organisational members, leaders,
10 designer, customers, and the like (Hancock, 2005). Changes within organisational space may
11 therefore be perceived differently by different actors and organisational members (Stegmeier,
12 2008). Kjølle and Blakstad (2014) found that building professionals' experience and expert
13 knowledge might result in a lack of interest in the end user needs and functional requirements.
14 This may further result in a mismatch between the user and professional perception of the purpose
15 and value of the workplace. As multiple users, creators and owners – are different, with different
16 relations to the same space, it is likely that a multitude of perspectives of the physical work
17 environment coexist (Allen et al., 2004).
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20 This is illustrated by Rylander (2009) who found that corporate project managers,
21 designers and users, through the meanings they applied to space, perceived the same workplace
22 design in profoundly different ways. The consultancy organisation under study had created a
23 workplace concept based on activity-based design principles. A main metaphor for the workplace
24 was developed based on the concept of an airport, resembling a place for 'landing and taking off',
25 arguing that this fitted well with the way the consultants worked. An extended user participation
26 process was arranged to develop the concept, and the final concept was created so that all services
27 and functionalities needed were easily available when working in the office. To increase internal
28 communication, networking and serendipitous meetings, informal meeting places had been
29 strategically placed by the main routes.
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32 After the move, both designers and corporate project managers regarded the new
33 workplace and the airport metaphor as a success. Employees, on the other hand, stated that the
34 new workplace concept lacked feelings of 'cosiness', that it was impersonal and sterile, and
35 communicated values such as rationality and efficiency. Employees interpreted the new
36 workspaces based on 'hidden messages' – assuming that certain design features had explicit
37 intentions behind them. For example, the sterile, cold and impersonal appearances of the physical
38 space was for them associated with an impersonal professional character, or what was believed to
39 be management expectations of 'the correct way to behave as a consultant'. As these values of
40 efficiency and professionalism were interpreted based on the spatial features, this affected
41 employees' attitudes towards the job as well as their behaviour. Some commented that it was
42 important in the new office to look 'busy' and that people had stopped greeting each other in the
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3 hallways. Employees further stated that they felt guilty if they used the informal places for a
4 coffee break – as this might be interpreted as not being efficient and productive.
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6 Although the airport metaphor correctly reflected the way work was carried out, the
7 employee meaning-making process was hampered. The concept and strategy thus failed in
8 reflecting the intended value of the workplace. Elsbach and Pratt (2007) stress that management
9 understanding of what employees value is important for the organisational space to fully enact the
10 correct and intended values. As the consultants in this case travelled more than they cared for,
11 often spending time at airport lounges, the author states that the airport metaphor might have
12 created negative affordances directed towards the workplace.
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18 19 20 **4. Discussion: Need for an Integrated Perspective on Organisational Space** 21 **Management Strategies** 22

23 As illustrated by the theory, strategic space management is a diverse and highly complex field.
24 The presented literature as well as textbooks, articles, blogs and case studies, targeting practise,
25 often provide examples of how intended change has been achieved by use of functional and/or
26 symbolic space management strategies. Such ‘how-to do’ texts together with the strong emphasis
27 on functional space management strategies have, however, resulted in a simplified and often
28 highly deterministic view on space as a change management tool. This has influenced a rational,
29 cause-effect thinking, suggesting that all, or at least the majority of, people read and react to
30 spaces in same or similar ways.
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33 Using spatial strategies to modernise and change corporate cultures have been found to be
34 more challenging than originally thought (Myerson, 2012b). As space is continuously formed and
35 re-formed by the meanings people invest in the space (Hancock, 2005), the relationship between
36 the organisational environment and human behaviour is not always a cause-effect relationship,
37 rather a complex interaction between space, organisational events and human perception (Vischer,
38 2005).
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46 As also pointed out by Heerwagen et al. (2004) lack of understanding of the social and
47 cognitive work processes, in combination with a poor understanding of research findings, often
48 leads to simplified strategies and poorly designed copy paste solutions. While practice often sets
49 the pace and drives the development of new spatial strategies, these need to be carefully assessed
50 and built on knowledge from current theory. This implies bridging the gap between practice and
51 theory, with a mutual focus on socio-material constructions in design and implementation of
52 spatial strategies.
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3 The three conceptualisations of spatial environments by Taylor and Spicer (2007) may in
4 this perspective all be useful and effective as strategic tools. However, they also have undeniable
5 limitations. Used incorrectly they may simultaneously pose challenges and risks for the
6 organisation, as also suggested by Christersson and Rothe (2012). However, as indicated by
7 Taylor and Spicer (2007), the faults of one strategy may possibly be compensated for by another
8 strategy. Treating the perspectives independently, disregarding the others, is thus limited and
9 limiting. Applying an integrated perspective may therefore strengthen the strategic change
10 initiative and better set the conditions for successful implementation.

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12 The theoretical foundation further underscores that social and material aspects are largely
13 inseparable; stressing the fact that a number of specific factors and concerns may affect the
14 success of the strategic change initiative. Examples derived from the presented cases include the
15 following aspects:

- 16 - Lack of understanding of employee values and current image of the organisation
- 17 - Lack of understanding of the employee meaning-making process, i.e. how the physical
- 18 change initiative is interpreted alongside other organisational events
- 19 - Differences in employee, management and external actors' perception of the workspaces
- 20 - Conflicts between the new and existing images of what activities and work processes the
- 21 organisation values
- 22 - Equivocal messages sent by 1) activities during the design and implementation of the
- 23 workplace, 2) the new workspace design itself, and/or 3) other organisational events and
- 24 practices in the workplace

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26 Ignoring the organisational context and complexity is therefore a key determinant to strategy
27 failure (Kampschroer and Heerwagen, 2005). These findings support the interactive socio-
28 material perspective. Such perspective, however, implies that the effects of the spatial strategy
29 cannot become clear until tested in practice. As the process of understanding organisational
30 change initiatives is often affected by internal rumours, stories and gossip (Balogun, 2006),
31 understanding of what narratives and rumours that are circulating on different organisational
32 levels may be tantamount in achieving the desired change initiative. For the strategy to be
33 successful, it must be developed and evaluated in a real-life context. In this process, Hancock
34 (2005) stresses that one needs to understand the 'meaning-making action' of corporate artefacts
35 not only by focusing on 'what' organisational artefacts mean, but more importantly 'how' and
36 'why' they create meaning in that particular context.

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As also noted by Kampschroer and Heerwagen (2005), the very act of evaluating and processing the link between space and organisational aspects may lead to new insights and the discovery of contradictions and inconsistencies between espoused and actual beliefs and behaviour. Applying a strategic approach with multiple perspectives to the spatial environment may result in improved understanding of the socio-material implications, thus enhance the likelihood of success. As change is a generative social process, understanding the socio-material implications amongst different user groups, may also require an extended flow-up process. Not only design, but also management of the implementation process needs to be strategically handled. By handling the change as an interactive process organisations may more successfully create a common spatial narrative, not only shared by architects, designer and managers, but by the whole organisation (Elsbach and Pratt, 2007; Hancock, 2005).

5. Concluding Remarks and Need for further Research

Berg and Kreiner (1990: 65) argued that: *“the mechanisms by means of which employees and the general public assign meanings to the physical setting created by organizations are vaguely understood”*. Thus their question of: *“How do we, for example, know that a certain design will evoke a certain, emotional, aesthetic or intellectual collective response, and through which processes is the dead material of buildings ... turned into living symbolic assets?”* (: 43) is still valid when attempting to create change by space management strategies. The review of the current theory indicates that a one-sided instrumental perspective disregarding the socio-material understanding may negatively affect the outcome of the change initiative.

The functional and instrumental perspectives on spatial environments have created a profound theoretical basis for claiming that spatial environments may contribute to organisational change. There is however a need for more knowledge on space as lived social experience, including symbolic and socio-material perspectives. Adopting a broader angle to space as a strategic tool both in research and practice may provide organisations and building consultants with more knowledge and a broader scope to better implement and succeed with the change initiative. Such understanding may significantly add to organisations and building consultants' ability to 'steer' the interpretation of space, and during the process implement actions and measures to correct possible misalignments and misinterpretations.

6. References

- Aaltonen, I., Ala-Kotila, P., Järnström, H., Laarni, J., Määttä, H., Nykänen, E., Schembri, I., Lönnqvist, A., Ruostela, J., Laihonen, J. & Jääskeläinen, A. 2012. New Ways of Working: State-of-the-Art Report on Knowledge Work VTT Technology 17.
- Airo, K. & Nenonen, S. 2014. Review of linguistic approach in the workplace management research. *Facilities*, 32, 27-45.
- Alexander, K. & Price, I. 2012. *Managing organizational ecologies: space, management and organizations*, New York, Routledge.
- Allen, T., Bell, A., Graham, R., Hardy, B. & Swaffer, F. 2004. Working without walls: An insight into the transforming government workplace. London: DEWG.
- Allen, T. J. & Henn, G. 2007. *The organization and architecture of innovation: managing the flow of technology*, Burlington, MA, Butterworth-Heinemann.
- Appel-Meulenbroek, R. 2010. Knowledge sharing through co-presence: added value of facilities. *Facilities*, 28, 189-205.
- Appel-Meulenbroek, R., Havermans, D., Janssen, I. & Van Kempen, A. 2010. Corporate branding: an exploration of the influence of CRE. *Journal of Corporate Real Estate*, 12, 47-59.
- Arge, K. & De Paoli, D. 2000. Kontorutforming som strategisk virkemiddel (Office architecture as a strategic management tool). *Prosjektrapport 285*. Oslo: Norges byggforskningstittut.
- Bakke, J. W. 2007. A Nordic guide to workplace design. Oslo: Norden: Nordic Innovation Centre.
- Baldry, C. & Hallier, J. 2010. Welcome to the house of fun: work space and social identity. *Economic and Industrial Democracy*, 31, 150-172.
- Balogun, J. 2006. Managing change: Steering a course between intended strategies and unanticipated outcomes. *Long Range Planning*, 39, 29-49.
- Becker, F. 2002. Improving organisational performance by exploiting workplace flexibility. *Journal of Facilities Management*, 1, 154-162.
- Becker, F. & Kelley, T. 2004. *Offices at Work: Uncommon Workspace Strategies that Add Value and Improve Performance*, San Fransisco, Jossey-Bass.
- Bell, A. 2006. Making Change Work. In: Worthington, J. (ed.) *Reinventing the workplace*. Amsterdam: Elsevier.
- Berg, P. O. & Kreiner, K. 1990. Corporate Architecture: Turning Physical Settings into Symbolic Resources. In: Gagliardi, P. (ed.) *Symbols and artifacts: Views of the corporate landscape*. Berlin: De Gruyter.
- Bjerke, R., Ind, N. & De Paoli, D. 2007. The impact of aesthetics on employee satisfaction and motivation. *EuroMed Journal of Business*, 2, 57-73.
- Bridges, W. 2009. *Managing transitions: making the most of change*, London, Nicholas Brealey.
- Cairns, G. 2002. Aesthetics, Morality and Power: Design as Espoused Freedom and Implicit Control. *Human Relations* 799-820.
- Cameron, E. & Green, M. 2015. *Making sense of change management: A complete guide to the models, tools and techniques of organizational change*, London, Kogan Page
- Chanlat, J.-F. 2006. Space, Organization and Management Thinking: a Socio-Historical Perspective. In: Clegg, S. R. & Kornberger, M. (eds.) *Space, Organizations and Management Theory*. Malmö: Liber & Copenhagen Business School Press.
- Chilton, J. & Baldry, D. 1997. The effects of integrated workplace strategies on commercial office space. *Facilities*, 15, 187-194.
- Christersson, M. & Rothe, P. 2012. Impacts of organizational relocation: a conceptual framework. *Journal of Corporate Real Estate*, 14, 226-243.
- Clegg, S. R. & Kornberger, M. 2006a. Organizing Space. In: Clegg, S. R. & Kornberger, M. (eds.) *Space, Organizations and Management Theory*. Malmö: Liber & Copenhagen Business School Press.
- Clegg, S. R. & Kornberger, M. 2006b. *Space, Organizations and Management Theory*, Malmö, Liber & Copenhagen Business School Press.
- Cooper, C. L., Cartwright, S. & Earley, P. C. 2001. *The International Handbook of Organizational Culture and Climate*, New York, NY, John Wiley & Sons Ltd.

- 1
2
3 Dale, K. & Burrell, G. 2008. *The spaces of organisation and the organisation of space: Power, identity and materiality at work*, Basingstoke, Palgrave Macmillan.
- 4
5 Danielsson, C. B. 2014. *Vad är et bra kontor? Olika perspektiv på Sveriges vanligaste arbetsplats. (What is a good office? Different perspectives on Sweden's most common workplaces)*, Stockholm, AB Svensk Byggtjänst.
- 6
7 Danko, S. 2000. Beneath the surface: A story of leadership, recruitment, and the hidden dimensions of strategic workplace design. *Journal of Interior Design*, 26, 1-24.
- 8
9 Dolan, P. & Britain, G. 2010. Mindspace: Influencing behaviour through public policy. Cabinet Office.
- 10
11 Duffy, F. 2005. The Impact of Office Design on Business Performance.
- 12
13 Duffy, F. 2008. Measurements: The Key to Reinventing the Office. In: Grech, C. & Walters, D. (eds.) *Future office: design, practice and applied research*. London: Routledge.
- 14
15 Duffy, F. & Powell, K. 1997. *The new office*, London, Conran Octopus.
- 16
17 Elsbach, K. D. & Pratt, M. G. 2007. 4 The Physical Environment in Organizations. *The Academy of Management Annals*, 1, 181-224.
- 18
19 Finch, E. 2012. *Facilities change management*, Chichester, Wiley-Blackwell.
- 20
21 Flyvbjerg, B. 2013. Case Study. In: Denzin, N. K. & Lincoln, Y. S. (eds.) *Strategies of qualitative inquiry*. Los Angeles: SAGE.
- 22
23 Gagliardi, P. 1990. *Symbols and artifacts: Views of the corporate landscape*, Berlin, Walter de Gruyter.
- 24
25 Gibson, J. J. 1979. *The ecological approach to visual perception*, Boston, Houghton Mifflin.
- 26
27 Gifford, R., Steg, L. & Reser, J. P. 2011. Environmental Psychology. In: Martin, P. R., Cheung, F. M., Knowles, F. M., Kyrios, M., Overmier, J. B. & Prieto, J. M. (eds.) *IAAP Handbook of Applied Psychology*. Chichester: Blackwell Publishing Ltd.
- 28
29 Gustafsson, C. 2002. From concept to norm—an explorative study of office design management from an organizational perspective. *Facilities*, 20, 423-431.
- 30
31 Hancock, P. 2005. Uncovering the semiotic in organizational aesthetics. *Organization*, 12, 29-50.
- 32
33 Harrison, S. & Dourish, P. 1996. Re-place-ing space: the roles of place and space in collaborative systems. *Proceedings of the 1996 ACM conference on Computer supported cooperative work*. ACM.
- 34
35 Hatch, M. J. 1987. Physical barriers, task characteristics, and interaction activity in research and development firms. *Administrative Science Quarterly*, 387-399.
- 36
37 Heerwagen, J. H., Kampschroer, K., Powell, K. M. & Loftness, V. 2004. Collaborative knowledge work environments. *Building research & information*, 32, 510-528.
- 38
39 Horgen, T. H., Joroff, M. L., Porter, W. L. & Schön, D. A. 1999. *Excellence by design: transforming workplace and work practice*, New York, Wiley.
- 40
41 Hughes, M. 2011. Do 70 per cent of all organizational change initiatives really fail? *Journal of Change Management*, 11, 451-464.
- 42
43 Inalhan, G. & Finch, E. 2012. Change and Attachment to Place. In: Finch, E. (ed.) *Facilities change management*. Chichester: Wiley-Blackwell.
- 44
45 Kabo, F., Hwang, Y., Levenstein, M. & Owen-Smith, J. 2013. Shared paths to the lab: a sociospatial network analysis of collaboration. *Environment and Behavior*, 47, 57-84
- 46
47 Kampschroer, K. 2008. Cultural Alignment. In: Kuttner, P., Grech, C. & Walters, D. (eds.) *Future office: design, practice and applied research*. London: Routledge.
- 48
49 Kampschroer, K. & Heerwagen, J. H. 2005. The strategic workplace: development and evaluation. *Building Research & Information*, 33, 326-337.
- 50
51 Khanna, C., Van Der Voordt, T. J. & Koppels, P. W. 2013. Corporate real estate mirrors brand: a conceptual framework and practical applications. *Journal of Corporate Real Estate*, 15, 213-230.
- 52
53 Kjølle, K. H. & Blakstad, S. H. 2014. Architects and End Users: Boundary Objects in Participatory Briefing and Design. *Nordic Journal of Architectural Research*, 35-64.
- 54
55 Knittel-Ammerschuber, S. 2006. *Architecture: the element of success. Building Strategies and Business Objectives*, Basel, Switzerland, Birkhäuser.
- 56
57 Kornberger, M. & Clegg, S. R. 2004. Bringing space back in: organizing the generative building. *Organization Studies*, 25, 1095-1114.
- 58
59
60

- 1
2
3 Kuttner, P. 2008. Organizational Change. In: Grech, C. & Walters, D. (eds.) *Future office: design, practice and applied research*. London: Routledge.
- 4
5 Lansdale, M., Parkin, J., Austin, S. & Baguley, T. 2011. Designing for interaction in research
6 environments: A case study. *Journal of Environmental Psychology*, 31, 407-420.
- 7 Leaman, A. & Bordass, B. 1999. Productivity in buildings: the 'killer' variables. *Building Research &*
8 *Information*, 27, 4-19.
- 9 Leaman, A. & Bordass, B. 2005. Productivity in Buildings: the "killer" variables. EcoLibrium.
- 10 Leaman, A. & Bordass, B. 2007. Are users more tolerant of 'green' buildings? *Building Research &*
11 *Information*, 35, 662-673.
- 12 Lefebvre, H. 1991. *The production of space*, Oxford, Blackwell.
- 13 Markus, T. A. 2006. Built Space and Power. In: Clegg, S. R. & Kornberger, M. (eds.) *Space,*
14 *Organizations and Management Theory*. Malmö: Liber & Copenhagen Business School Press.
- 15 Marrewijk, A. V. 2010. The beauty of the beast: the embodied experience of two corporate buildings.
16 In: Marrewijk, A. V. & Yanow, D. (eds.) *Organizational spaces: rematerializing the*
17 *workaday world*. Cheltenham, Elgar.
- 18 Meel, J. V. 2011. The origins of new ways of working. Office concepts in the 1970s. *Facilities*, 29,
19 357-367.
- 20 Moenaert, R. K. & Caeldries, F. 1996. Architectural redesign, interpersonal communication, and
21 learning in R&D. *Journal of Product Innovation Management*, 13, 296-310.
- 22 Mosbech, K. 2003. *Arbejdsrummet: Organisatoriske mål & fysiske rammer*, Svedenborg, Litotryk
23 Svedenborg AS.
- 24 Muetzelfeldt, M. 2006. Organizational Space, Place and Civity. In: Clegg, S. R. & Kornberger, M.
25 (eds.) *Space, Organizations and Management Theory*. Malmö: Liber & Copenhagen Business
26 School Press.
- 27 Myerson, J. 2012a. Workplace Redesign to Support the 'Front End' of innovation. In: Alexander, K. &
28 Price, I. (eds.) *Managing organizational ecologies: space, management and organizations*.
29 New York: Routledge.
- 30 Myerson, J. 2012b. Workspace redesign to support the 'front end' of innovation In: Alexander, K. &
31 Price, I. (eds.) *Managing Organizational Ecologies: Space, Management and Organizations*.
32 New York: Routhledge.
- 33 Nadler, D., Tushman, M. & Nadler, M. B. 1997. *Competing by design: the power of organizational*
34 *architecture*, New York, Oxford University Press.
- 35 Nieuwenhuis, M., Knight, C., Postmes, T. & Haslam, S. A. 2014. The relative benefits of green versus
36 lean office space: Three field experiments. *Journal of Experimental Psychology: Applied*, 20,
37 199.
- 38 Olguín, D. O., Waber, B. N., Kim, T., Mohan, A., Ara, K. & Pentland, A. 2009. Sensible
39 organizations: Technology and methodology for automatically measuring organizational
40 behavior. *Systems, Man, and Cybernetics, Part B: Cybernetics, IEEE Transactions on*, 39, 43-
41 55.
- 42 Orbach, M., Demko, M., Doyle, J., Waber, B. N. & Pentland, A. S. 2014. Sensing Informal Networks
43 in Organizations. *American Behavioral Scientist*, 1-17.
- 44 Øvsthus, A. K. 2014. *Nudging and productivity A field experiment in the office*. University of
45 Copenhagen.
- 46 Peponis, J., Bafna, S., Bajaj, R., Bromberg, J., Congdon, C., Rashid, M., Warmels, S., Zhang, Y. &
47 Zimring, C. 2007. Designing space to support knowledge work. *Environment and Behavior*.
- 48 Pepper, G. L. 2008. The physical organization as equivocal message. *Journal of Applied*
49 *Communication Research*, 36, 318-338.
- 50 Pinder, J., Austin, S., Schmidt LII, R. & Gibb, A. 2012. Form, Function and the Economics of Change.
51 In: Finch, E. (ed.) Chichester: Wiley-Blackwell.
- 52 Rashid, M., Wineman, J. & Zimring, C. 2009. Space, behavior, and environmental perception in open-
53 plan offices: a prospective study. *Environment and Planning B: Planning and Design*, 36,
54 432-449.
- 55 Raymond, S. & Cunliffe, R. 1997. *Tomorrow's office*, Londodn, E&FN Spon.
- 56 Robertson, K. 2000. Work transformation: integrating people, space and technology. *Facilities*, 18,
57 376-382.
- 58
59
60

- 1
2
3 Ropo, A., Salovaara, P., Sauer, E. & De Paoli, D. 2015. *Leadership in Spaces and Places*,
4 Cheltenham, Elgar.
- 5 Ruostela, J., Lönnqvist, A., Palvalin, M., Vuolle, M., Patjas, M. & Raij, A.-L. 2014. 'New Ways of
6 Working' as a tool for improving the performance of a knowledge-intensive company.
7 *Knowledge Management Research & Practice*, 382–390.
- 8 Rylander, A. 2009. How do workplace design mean – contrasting manager-designer-user perspectives.
9 *8th European Academy Of Design Conference*. The Robert Gordon University, Aberdeen.
- 10 Shiem-Shin Then, D. 2012. The Business of Space. In: Finch, E. (ed.) *Facilities change management*.
11 Chichester: Wiley-Blackwell.
- 12 Steele, F. I. 1973. *Physical settings and organization development*, Reading, Mass., Addison-Wesley.
- 13 Stegmeier, D. 2008. *Innovations in office design: The critical influence approach to effective work*
14 *environments*, Hoboken, NJ, John Wiley & Sons.
- 15 Strati, A. 1999. *Organization and Aesthetics*, Londo, Sage.
- 16 Stryker, J. B., Santoro, M. D. & Farris, G. F. 2012. Creating Collaboration Opportunity: Designing the
17 Physical Workplace to Promote High-Tech Team Communication. *IEEE Transactions on*
18 *Engineering Management*, 59, 609-620.
- 19 Tanis, J. 2008. Workspace and Behavior. In: Kuttner, P., Grech, C. & Walters, D. (eds.) *Future office:*
20 *design, practice and applied research*. London: Routledge.
- 21 Taylor, S. & Spicer, A. 2007. Time for space: A narrative review of research on organizational spaces.
22 *International Journal of Management Reviews*, 9, 325-346.
- 23 Tsai, W. 2002. Social structure of “coopetition” within a multiunit organization: Coordination,
24 competition, and intraorganizational knowledge sharing. *Organization science*, 13, 179-190.
- 25 Van Der Voordt, T., J. M. 2004. Productivity and employee satisfaction in flexible workplaces.
26 *Journal of Corporate Real Estate*, 6, 133-148.
- 27 Van Meel, J. & Vos, P. 2001. Funky offices: reflections on office design in the ‘new economy’.
28 *Journal of Corporate Real Estate*, 3, 322-334.
- 29 Vilnai-Yavetz, I., Rafaeli, A. & Schneider Yaacov, C. 2005. Instrumentality, Aesthetics, and
30 Symbolism of Office Design. *Environment and Behavior* 37, 533-551.
- 31 Vischer, J. 2005. *Space meets status: designing workplace performance*, London, Routledge.
- 32 Vischer, J. C. 2012. User Empowerment in Workspace Change. In: Finch, E. (ed.) *Facilities change*
33 *management*. Chichester: Wiley-Blackwell.
- 34 Waber, B., Magnolfi, J. & Lindsay, G. 2014. Workspaces that move people. *Harvard business review*,
35 92, 68-77, 121.
- 36 Warren, S. 2002. Creating Creativity - the organizational manipulation of aesthetics in a web-design
37 department. *The Pink Machine Papers*, 9 (2). Stockholm.
- 38 Warren, S. & Fineman, S. 2007. Don't get me wrong, it's fun here, but. In: Westwood, R. & Rhodes,
39 C. (eds.) *Humour, Work and Organization*. London: Routledge.
- 40 Zelinsky, M. 2002. *The inspired workspace: interior designs for creativity & productivity*, Gloucester,
41 Mass., Rockport Publishers.
- 42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
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