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Relocation to an activity-based flexible office – Design processes and outcomes

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ABSTRACT

Many organizations relocate to activity-based flexible offices (A-FOs) and the results are mixed. This study aims at identifying factors in the design and implementation process that contribute to perceived performance and environmental satisfaction with A-FOs.

A company with 50 employees was studied using interviews, questionnaires and documentation before and after relocation. The results showed that process factors such as objectives, financial and time resources, employee participation and empowerment, and methodological approach contributed to the outcomes. Perceived performance and employee satisfaction with the physical environment increased significantly after the relocation. Employee empowerment, highlighted by the employees, correlated with the performance and satisfaction parameters.

A conceptual model is proposed relating process factors, internal and external organizational context, and physical office setting to work condition consequences and overall outcomes such as employee performance and satisfaction.

1. Introduction

Following the development of mobile Information and Communication Technology the activity-based flexible office (A-FO) has been implemented worldwide (Appel-Meulenbroek et al., 2011; de Croon et al., 2005; Golden, 2007; Seddigh et al., 2014; Wohlers and Hertel, 2016). The reasons for implementing A-FOs are to decrease facility costs, increase flexibility and employee satisfaction (de Been et al., 2015; Hirst, 2011; Kim et al., 2016; Rolfö and Babapour Chafi, 2017), stimulate interaction, improve creativity and efficiency, reduce footprint, and attract personnel and external clients (van der Voordt, 2004; Vos and van der Voordt, 2002). The concept offers a variety of settings to support different work activities (Appel-Meulenbroek et al., 2011) and is normally dimensioned for 70% of the workforce (Danielsson and Bodin, 2008). Hence, employees choose where to carry out their work on a daily basis and share work desks and work spaces. The concept is also termed multispace office, flexible office, hot-desking office, non-territorial office, and activity-based office (Brunia et al., 2016; Kim et al., 2016; Knight and Haslam, 2010; Ruohomäki et al., 2015). However, although the office concept is the same, the physical office setting (space configuration and plan layout) and usage vary between A-FOs (Danielsson and Bodin, 2008; Rolfö and Babapour Chafi, 2017). The physical office setting and usage are decided in the design and implementation process (Lahtinen et al., 2015; Rolfö and Babapour Chafi, 2017).

Research has shown that employee performance and satisfaction in offices are affected by working conditions provided by the physical office setting. For example ambient conditions such as lighting, air quality and noise (Sundstrom and Sundstrom, 1986), and the provision of privacy, territoriality and communication (de Croon et al., 2005) affect performance and satisfaction. However, results regarding employee performance and satisfaction in A-FOs are inconsistent (de Been and Beijer, 2014; Nijp et al., 2016; Rolfö et al., 2017a). A-FOs have been shown to increase perceived performance through increased team-work quality and communication (de Croon et al., 2005) and fewer distractions (Seddigh et al., 2014). Moreover, the concept has also been shown to increase physical and mental demands such as finding and adjusting a workplace (Rolfö et al., 2017a; Wolfeld, 2010), decreasing perceived performance. For employee satisfaction, the office concept has been associated with modern interior design, and high aesthetics and autonomy (Rolfö et al., 2017a), but also with lack of privacy and personal territory, and impaired interpersonal relations (Brunia and Hartjes-Gosselink, 2009; de Croon et al., 2005; Morrison and Macky, 2017; Rolfö et al., 2017a; van der Voordt, 2004). A-FO literature suggests that fewer negative and more positive work condition consequences are reported in A-FOs that have had an extensive design and

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implementation process (Brunia et al., 2016).

Activity-based working, or New Ways of Working, is a philosophy whereby employees determine for themselves where, when and how to conduct their work (Appel-Meulenbroek et al., 2011). Hence when relocating to A-FOs, employees face a change in ways of working. From a sociotechnical perspective, this autonomous, flexible working philosophy puts new demands on the interdependent components of the sociotechnical system. The components are (1) the technological, (2) the personnel, (3) the organizational, and (4) the external environment subsystem (Hendrick and Kleiner, 2016). The sociotechnical system theory is used for designing new work systems and facilitating the process of change that, for example, is involved in office design and organizational development (Porras and Robertson, 1992). However, the sociotechnical perspective is not discussed in the literature on A-FO design processes.

Inappropriate office setting such as overcrowding, lack of rules and misuse of the concept are often the consequence of critical design process failures (Appel-Meulenbroek et al., 2011; Rolfö et al., 2017a). Normally, A-FO implementation lacks a systematic process and applies a general concept solution, rather than investigating internal organizational context such as tasks and activities performed by employees (Bjerrum and Bødker, 2003). Process factors contributing to successful changes are defined for industrial settings and open-plan offices. Success factors include for example (1) goals and change drivers, (2) employee participation, and (3) thorough process including good inventory and intervention activities (Davis et al., 2011; Vink et al., 2006; Vischer, 2008). Evaluations of interventions and ways of increasing readiness for change are described by Nielsen and Randall (2013). However, there are insufficient studies examining process factors specifically for A-FOs.

In summary, perceived performance and employee satisfaction vary in A-FOs. A-FO literature suggests that the design and implementation process influences perceived performance and employee satisfaction in the A-FO (Brunia et al., 2016; Hongisto et al., 2016). However, there are few empirical studies supporting this claim. Moreover, few studies have integrated process evaluation and effect evaluation of interventions (Nielsen and Randall, 2013) and there are few models relating theory to practice to improve A-FO design and implementation processes. The aims of this paper are to:

- Identify process factors that contribute to employee satisfaction and dissatisfaction with the A-FO.
- Explore if and how perceived performance and employee satisfaction change after relocation from a mixed office to an A-FO.
- Propose a conceptual model including process factors, organizational context, and outcomes of office relocations.

2. Method

The research scope was to methodically study entire design and implementation processes for productive, satisfactory and healthy office work environments. Process evaluations, including appraisals of an intervention, call for a mixed method approach in order to identify factors and impact of the intervention, add meaning to results, and cross-validate results (Nielsen and Randall, 2013). This longitudinal case study combined results from interviews, questionnaires and documentation.

2.1. The case company

The research was carried out at a small IT-service company that anticipated it would soon outgrow its office premises and was discussing the choice of office type. Before relocation the company premises consisted of seven cell offices, five shared offices, and two small office landscapes (cf. office definition in Danielsson and Bodin, 2008). The company relocated to a newly built A-FO (Fig. 1), with a centralized plan layout with 32 fully equipped workstations (two screens, keyboard, mouse, docking station and intranet connection). These workstations were divided into an open-plan interaction area, and an open-plan semi-quiet area. The employees could choose any work area and workstation but were required to clear the workstation from belongings by the end of the day or if unattended for more than two hours. There were no restrictions on using the same workstation on consecutive days. Job categories included IT-consultant agents, in-house IT-support, IT development, and support functions such as administration and management, including the owners. A large proportion of the employees worked as consulting agents in other organizations and were present in the office for one or two days/week. Besides Mondays, when all employees tried to be present in the office, there were normally equipped workstations available in both areas.

2.1.1. Objectives for relocation

There were several objectives for relocation. The existing office was perceived to hinder interaction between work groups. Moreover, the office type did not support the fact that the number of employees present in the office could vary on a daily basis, from overcrowded to empty and lacking in energy. Reconstruction of the existing premises was rejected due to a low cost-benefit ratio. According to planning documentation, the objectives were to create an energized meeting arena where employees and future talents want to go to perform work tasks, meet full potential, learn and cooperate. Moreover, the objectives included development of the company, the business and the view of work. The company's ambition was to win the Great Place to Work® Sverige *[Sweden]* competition.

2.1.2. Design and implementation process summary

The three year-long design and implementation process is described in Rolfö et al. (2017b). In short, in order to decide office type, employees' activities and needs were investigated through several methods (Table 1). The focus was both on the physical as well as the organizational and social work environment. Work groups (e.g. IT-development group) were formed and thoughts were shared with the whole company during workplace meetings. Questionnaires were distributed to find out more about employee concerns and attitudes, when it was still possible to make changes to plans.

2.2. Data collection procedure

In order to identify influencers in the design and implementation process for employee satisfaction with the A-FO, all 31 employees who had been recruited at least 3 months before relocation were invited to participate in interviews by signing up on the company's intranet. In total, 29 semi-structured individual interviews were conducted nine months after relocation. The interviews lasted on average 30 min and took place in an enclosed back-up room in the A-FO. Questions regarded satisfaction with the A-FO and the design process, possible reasons for the positive/negative outcomes, ability to influence the outcomes, what could have been done differently, and what in the process that was most rewarding (see appendix A for interview guide). All interviews were audio recorded. Interviewee responses regarding ability to influence the outcomes were triangulated with answers to the question "To what extent are you satisfied with the participation in decision making regarding the design of the new premises" posed in the post-relocation questionnaire.

In order to explore changes in environmental satisfaction and perceived performance, questionnaires were distributed to all employees at the company (Table 2); 3 months before (response rate 89%), and 9 months after (response rate 92%) relocation. Of the 31 employees working on both questionnaire distribution occasions, 28 answered both questionnaires (response rate 90%).

The pre-relocation questionnaire included 98 questions. Comments were optional for every question. The post-relocation questionnaire also