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Success factors and challenges in implementing Activity-based Flexible Offices – A qualitative process evaluation with key stakeholders

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ABSTRACT

This paper identifies success factors and challenges in planning Activity-based Flexible Offices (AFOs) from perspectives of practitioners involved in the process and staff managers. Data was collected in a public service organisation that had launched AFOs in two newly built offices (approximately 2000 employees). Data collection took place one year after relocation and involved interviews and focus group discussions with a total of 35 participants. The primary challenge in early planning phases was to navigate the boundaries of the project, particularly due to limited knowledge and resources within the organisation. Due to the large scale of the project, close collaboration with senior management was seen as a key success factor. The project suffered from insufficient analysis and late involvement of occupational health experts. The interior designers had minimal interaction with the work units and strived for a standardised solution according to the clients' requirements. Involvement of employees and managers in the planning was minimal, except for those managers who had decision-making roles in the process. Instead, representatives were appointed to play an intermediary role between the work units and the project. This led to reliance on individual representatives' interest, engagement, and negotiation capacity, with implication for design customisations and readiness for change within the units. Despite extensive communication material and appointing of representative roles, the information did not reach the units as intended. Reliance on managers to conduct internal change activities led to additional differences between units' acceptance of AFOs. New interdependencies emerged in the organisation due to the shift to a centralised and standardised workplace solution: high service expectations; demands for post-relocation customisations; and a necessity to create new roles and forums to make AFO work.

Keywords

Activity-based working, Planning process, Workplace design, Stakeholder involvement.

1 INTRODUCTION

Research findings about impacts of Activity-based Flexible Offices (AFOs) on employees' wellbeing and performance is mixed (Engelen, et al., 2019). There is also a gap between intended New Ways of Working (NWOW) and employees' actual ways of working in AFOs (Hoendervanger et al., 2016; Häne & Windlinger, 2021). Studies show that perception of AFO planning processes influence implementation outcomes (Brunia et al., 2016; Rolfö, 2018;

Sirola et al., 2021), specifically that a meaningful involvement and participation of employees in planning process is instrumental for achieving positive outcomes. While employees, as users of workplaces, are the most important stakeholders in design processes, there are other actors who influence a design change. Implementing AFOs can be seen as Human Factors-related design change characterised as top-down macro-ergonomics systems approach to design of work systems (Hendrick, 2007). Therefore, it is important to understand perspectives of different stakeholders.

This paper aims to identify success factors and challenges in planning Activity-based Flexible Offices from perspectives of practitioners and staff managers in a case organisation.

2 METHODOLOGY

A case study approach was selected for in-depth exploration of a planning process in a public service organisation that had launched AFOs in two new buildings (approximately 2000 employees). The descriptive and contextual nature of the topic calls for a qualitative case study. The study was approved by the Swedish Ethical Review Board (Ref. 768-18).

The planning process for launching the AFOs was approximately four years. The data was collected in February 2020 (approximately one year post-relocation), involving a total of 35 participants (Table 1):

- **Focus group discussions with the project team held** during a full-day process evaluation workshop with the practitioners (n=11). The workshop involved discussions for mapping events, resources, success factors and challenges.
- **Semi-structured interviews with architects: the two architects** responsible for interior design were interviewed about the process and intents behind workspaces. The interviews took approximately two hours.
- **Interviews with managers:** All managers (approximately 200) who had relocated to AFOs were invited to participate in focus group interviews. In total, 22 managers volunteered, of which some (n=5) did not attend the focus groups and were instead interviewed individually. The interviews covered different topics about AFOs. In this paper, questions about planning are included for analysis.

Table 1. Participants.

Data collection	Roles	Number
Focus group with project team	Project manager (1); Communication officer (1); ICT development/digitalisation expert (1); OHS experts (2); Real Estate owner/building (1); Tenant representative (1); Facility management/Service (4)	11
Individual interviews	Architects/interior designers	2
Group/individual interviews	Managers: line- (16), middle- (5), and senior (1) management	22

All data were recorded and transcribed. The analysis involved:

- **An evaluation coding strategy** to identify success factors and challenges, reflecting participants' descriptions of what happened and why. This strategy is appropriate for process evaluations, assigning judgements about merits or significance of different events and actions in a process (Miles et al., 2020., p. 68).
- **Second cycle codes** that grouped the evaluation codes into a smaller number of themes to condense the material (ibid., p.79). These were concepts such as *navigating project boundaries or stakeholder involvement*.

- **A priori coding strategy** to arrange the previously identified codes as chronological events (ibid., p. 192). These pre-defined codes describe phases of AFO implementation adapted from van Meel (2020) and van Koetsveld and Kamperman (2011): *general planning; requirement specification; design and development; building and change management; moving; and making it work in practice.*
- **Visual displays** to illustrate the process.

3 RESULTS

The results from (1) project team's and architects', and (2) managers' viewpoints are presented in two sections.

3.1 Project team's perspective

The findings are presented for each phase and categorised into four concepts: *Navigating project boundaries; Stakeholder involvement; Identification of needs and customisation; and communication with employees and managers* (Figure 1a-b). Each concept includes a range of themes describing success factors and challenges. Here, we elaborate on themes that were unanimous, clearly conflicting, or emphasised.

Phase One. General planning

Implementing AFOs was a new type of project for the organisation and the project team. This required navigating boundaries of the project and clarifying ambiguities about roles and responsibilities despite an initial lack of knowledge and resources. A success factor was recurrent meetings with the steering group and the support they provided from senior management. This was critical, as work units to be relocated were moving from facilities with unit-specific pricing for rent, facility services and de-centralised IT-equipment. The relocation involved changing the de-centralised billing model to a centralised one with bundled pricing per employee, and relocation from 27 smaller offices to two larger and standardised AFOs. Senior management had also specified sustainability goals for building standards and re-use of furniture.

During an initial planning, four sub-projects were created that worked in separate streams but got together frequently: IT, Facility management, Building/real estate, and Change management. A critical step was then to identify and involve key stakeholders (such as tenant and union representatives). While the multi-disciplinary collaboration was appreciated, the timing, extent and scope of stakeholder involvement was debated. For instance, it was agreed that HR and OHS experts should have been involved earlier, to provide guidelines and facilitate change. However, timing and scope of TRs' (tenant representatives) involvement was a subject of disagreement. This was critical, as TRs played an intermediary role between work units and project team: they were expected to voice the concerns of colleagues and communicate project information. According to some, TRs should have been involved earlier while others mentioned that the relative early involvement of TRs led to diversions from the project: "*it is difficult to find a balance between stakeholder involvement and moving forward*". Nonetheless, there was consensus about TRs' individual differences in fulfilling their responsibilities.

From a communication perspective, motives behind implementation were not clearly and sufficiently conveyed. This was believed to influence employees' acceptance.

Phase Two. Requirement specification

Requirements for IT-equipment and services were successfully specified, leading to a resource-efficient and well-functioning solution. A major challenge was insufficient needs analysis for building and facility services: (1) analyses were conducted 'too early' with neither iterations nor attention to parallel organisational changes; (2) focused on generic individual needs, instead of future needs of work units. Nonetheless, requirement specifications, invitation to tender, selection of contractors, and building design were based on insufficient analyses.

Participation of TRs, employees, and managers in specifying requirements was a topic of debate: while some mentioned TRs should have helped identify unit-specific needs, others defended the generic and top-down requirement specification for its convenience. TR's individual drive, persistence in voicing units' needs, and negotiation capacity led to some unit-specific considerations:

The project's novelty for facility management required internal organisational development: *"we should have appointed a project leader for our organisational development. We didn't have time to map our own needs as a service organisation. What we should deliver now and in future. No one knew what the requirements were. It took several years until we understood"*. Several new roles were appointed in this sub-project: (a) an expert for creating furniture inventories as the organisation aimed for a large-scale re-use of their furniture; and (b) a move coordinator to support the logistics of relocation. Other overlooked challenges were interdependencies between sub-projects, particularly imposed by upcycling of furniture. With the participants suggested that thorough risk analyses may help identify and address these risks.

Phase Three. Design & development

The collaboration between the project team/client and interior designers was facilitated with a *'transparent communication strategy with living documentation of design decisions'* – a successful strategy according to the designers. Nonetheless, closer collaboration between designers, FM and OHS experts was desired to better meet needs of tenants and service providers. The interior design decisions were based on the specifications provided by the client: *"a building for all without unit-specific customisations"*. Variety of work units and large number of employees did not allow for tailoring: *"It is difficult to make compromises, if you want to go all in with activity-based working"*. AFO was understood by the client and the architects as an open floor divided into zones, with collaboration zones being the largest to encourage collaboration, and prevent isolation and territorial behaviours. This understanding was influenced by architectural or consultancy firms that set certain design standards for AFOs: *"They [a firm] say 2,5-3 seats per person and have these zones with behavioural rules. I didn't come up with it but put together what other firms do and recommend"*. Establishing a new workplace concept with IT-equipment and services was seen as a success factor. Pilot tests were conducted in some of the previous offices to help understanding the new concept. While the pilots were found useful for developing the services, their low fidelity was raised as an issue: being far from reality, the pilots were *"difficult to understand, created many false truths and set wrong expectations, it would be better with a real test environment"*. In general, employees were not involved in the design process, and little effort was made to make unit-specific customisations.

Phase Four. Building and change management

Discussions about phase four mainly concerned change management's success factors: (1) a close collaboration with OHS experts, (2) extensive communication material, and (3) workshops with employees and managers. These workshops created a context for employees to be *heard and seen*, pose questions and voice concerns. The project team perceived these dialogues as 'negative complaints' rooted in fear of change, triggering worries about work environment in AFOs. Some mentioned that these activities were not tailored to needs and maturity levels of different units. Since the goal behind participatory activities were not clearly communicated; false interpretations were made *"they thought they could decide things"* that were challenging as design decisions had been made. Despite extensive communication material: *"information was not conveyed to managers, it stayed with tenant representatives and communication officers"*. The project team expected a higher level of participation in central change activities, and unit-specific activities organised by managers. Limited focus on and ambiguities about NWOW was another issue.

Re-using furniture continued to pose challenges, specifically for installing IT-equipment, some of which was delayed as old furniture had to be re-purposed.

Phases Five-Six. Moving and making it work

A smooth moving process and provision of IT- and ergonomic support was mentioned as a major success factors. However, limited involvement of HR remained an issue, for example some were not listed and were assigned lockers. Other issues concerned digital applications for occupancy measurements and to allow employees locate each other in the facilities. The project team lacked support from HR to develop or procure such solutions which employees expected in the new offices.

Handover to maintenance was experienced as ambiguous by facility management (with unclear roles, responsibilities, and billing structure). Other issues were high service expectations, customisation requests, no error handling system and limited post-relocation exchange with contractors for addressing faults and delivery delays. The interior designers also mentioned a need for continued exchange with the project team to learn and understand how the solution worked.

The project team discussed a disregard for NWOW due to limited preparations and involvement in change activities. More engagement was expected from managers and employee representatives to ensure compliance with NWOW. To address this and challenges with maintenance and post-relocation customisations, new work groups were created, consisting of panels of managers and facility management. The organisation was exploring ways to manage and make AFOs work.

Figure 2a. Success factors (green) and challenges (grey) according to the project team: Project management (PM); Communication (CO); Tenants (TR); IT development (ICT); Facility management (FM); Real estate/building (RE); Interior architecture (IA); Occupational health and safety (OHS)

Figure 1b. Success factors (green) and challenges (grey) according to the project team: Project management (PM); Communication (CO); Tenants (TR); IT development (ICT); Facility management (FM); Real estate/building (RE); Interior architecture (IA); Occupational health and safety (OHS)

1. General planning	2. Requirement specification	3. Design & development	4. Building & change management	5-6. Moving & making it work
Initial ambiguity in process, scope, sub-projects, roles & responsibilities (PM; TR; FM; OHS; RE; ICT)	Risk analysis was only conducted with respect to building and construction (PM; TR) Increased interdependencies (due to logistics of re-used furniture) required expertise and a new form of collaboration with IA; creating challenges for timely development and delivery of IT-solutions (ICT; FM; IA)			
A new project type without prior examples and experiences to rely on (FM; RE; IA)				
Navigating project boundaries	Learning about AFOs and collecting inspirational examples (TR; OHS; CO) Appointing service roles: move coordinator and furniture expert for inventory and re-use (FM) Organisational development and a positive social environment in FM team (FM)	Managing high service expectations and billing ambiguities (FM)		Handover ambiguities from project to maintenance & emergent needs of a service organisation (PM; FM; ICT; RE)
Status reports and regular meetings with the steering group, allowing for updating budgets and making changes (TR; RE; ICT)				
Stakeholder involvement				
Creating different groups: tenant representatives (TR); HR & union representatives (FM); building and design council (RE)	Establishment of a communication strategy to facilitate close collaboration with the client and work with the requirement specification (IA) Workshops with tenant representatives (TR; CO)	Workshops with contractors to address challenges with different phases of the project and reach consensus for courses of action (RE)		Establishing new work groups for participation of managers in overall building maintenance decisions (PM)
Finding a balance between involving many stakeholders and leading the project forward (PM)	Loss of time and resource due to late involvement of stakeholders and disregard for existing guidelines (PM; TR; OHS; RE)	Tight collaboration with OHS experts to address issues concerning ergonomics, change management and work environment (OHS; PM)		Limited exchange and follow-ups with contractors for addressing post-relocation problems (RE; IA; FM)
Limited change management competence and under-estimation of people's resistance to and fear of change (PM; CO; IA)	Limited collaboration and communication between interior design consultants and other experts e.g. IT, lighting designer, TRs and OHS experts (OHS; ICT; IA)			
Groups had different questions in the different phases, making the process and the involvement difficult to handle (FM)				
Limited and varied involvement of employee representatives from the different work units and ambiguities about timing, extent and purpose of involvement (TR; IA; RE; PM)	More engagement was expected of staff managers and employee representatives (FM; RE; PM; CO; ICT)			
Limited participation of HR created ambiguities throughout the project, e.g. with respect to number staff to be accounted for or HR-specific digital solutions (PM; TR; ICT)				
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1. General planning	2. Requirement specification	3. Design & development	4. Building & change management	5-6. Moving & making it work
Identification of needs & customisation Need analyses focused on individuals and generic needs instead of unit-specific needs, and present needs instead of future ones (PM; TR; FM; ICT; IA)	Need analyses for IT-equipment (ICT)	Establishing a new IT-workplace concept with a new billing model (ICT)	Reduced IT-problems (ICT)	
	Weaving occupational health research in the process (OHS)	Pilots to help identify the service needs (FM)	Handling maintenance problems, customisation requests, and high service expectations (FM; TR; PM; OHS)	
	Too early and too late need analyses efforts that did not feed into the office design decisions (FM; PM; OHS)	Some design and procurement decisions disregarded ergonomics guidelines (OHS)		
	Top-down decision on AFO-implementation imposed new ways of working (IA)	Interior design concept was based on project teams' requests and building limitations (IA)		
Communication with employees and managers Too late & indirect involvement of employees and managers led to a limited understanding of the change (CO)	Parallel organisational change processes imposed difficulties for needs analyses (TR)	Changes in expected occupancy necessitating re-work and creating a risk for crowding (IA)	Design choices disregarded some of the budgetary constraints and needs of service personnel; and were overruled by the project team (FM; IA)	
		Difficult to customise for a wide variety of work units and a large number of employees (IA; TR; FM)		
		Ambiguities in expected facility and IT services & organisational needs for service delivery (FM; ICT)		
		Too late & indirect involvement of employees and managers led to a limited understanding of the change (CO)	Creating extensive amount of communication material, seminars and preparatory activities to increase knowledge about AFOS (CO; TR; PM)	Some groups were well-prepared due to engagement in the central change management activities (TR)
Initial decision, its motives, and information about the project was not clearly and sufficiently conveyed to the staff managers and staff (PM; RE; CO)	Pilots to help understand the new workplaces (FM; CO)	Employees were heard and seen during the change activities (OHS)		
		Limited participation in central change management activities due to a lack of time/interest (TR; CO; PM)		
		Low fidelity of the pilot made it difficult to understand the change (CO; ICT)		
		Limited information & communication about ways of working and AFO-rules (PM; FM; CO; IA; TR)		
	Change activities focused on detailed information instead of tailoring to the needs and maturity levels of the units (TR; CO; OHS)			
	Some groups were not listed as tenants and thus excluded from processes, leading to a negative experience and lack of knowledge (TR; PM)			
	Change management activities within the units required time and resources; these were not prioritised by all managers, leading to different levels of maturity, preparedness, and compliance with AFO-rules (PM; TR; CO; ICT; RE; FM; IA)			
1. General planning	2. Requirement specification	3. Design & development	4. Building & change management	5-6. Moving & making it work

3.2 Staff management perspective

Findings from different phases are categorised into five concepts: *managers' viewpoints about AFOs; Participation; Communication; Identification of needs and customisation; and Pre-conditions and resources* (Figure 2).

Phases One-Three

Of the 22 interviewed managers, some (n=5) were directly involved in early phases, for example, in the steering group, the project team, or as TRs and move coordinators. A few others (n=3) voiced their needs, concerns, and suggestions through TRs. In general, those who were directly or indirectly linked to the process had a positive perception of the process and found the outcomes successful, both the solution and employees' adaptations and acceptance. In contrast, others (n=13) expressed that they were not involved in early phases of the planning, their units' needs were neglected and had limited possibilities to influence the process. As a result, the facilities were perceived to have shortcomings, not meeting the units' needs. Some were critical about standardised AFOs and the top-down decision for implementing AFOs. Nonetheless, the interviewees sympathised with the project team, having limitations to customise due to scale and complexity of the project. Despite their level of involvement and preconceptions about AFOs, assuming positive intent was considered a better approach than actively resisting the change.

Phase Four

The majority participated more actively in change management activities, that required time and resources. In this phase, managers played an intermediary role between the project team and their staff. Some managers conducted risk analyses within their units not only to identify risks and action plans, but also to create an opportunity for employees to voice concerns and prepare for the change. Further, a few engaged in negotiations with the project team to request customisations. The project team was perceived to be responsive, but limited changes were made as the building was being constructed. The participants mentioned that change activities provided information to prepare employees and encourage acceptance. Some appreciated these activities as a necessary way to learn about NWOW, leading to well-prepared and united staff who were satisfied and enjoyed working in the new facilities. However, others perceived these activities as pseudo-participation, "*forcing an ill-fitting way of working on us*". Consequently, they mentioned that their staff were frustrated, showed resistance, and rejected NWOW.

Phases Five-Six

While the smoothness of moving into the new buildings was a consensus among managers, a polarised view was identified about how well the building supported employees' and units' needs. Some perceived the facilities, services and their staff well-prepared. In contrast, others were concerned about those unmet needs such as limited storage or crowding. The latter group hoped for adjustments.

4 DISCUSSIONS

The study presented a multi-perspective approach that allowed mapping challenges and success factors of such a large-scale complex process of implementing AFOs. Such insights can help improve implementation processes by drawing on success factors and anticipating challenges. The perspectives combined here range from facility management, architecture, human factors, occupational health to change management. This transdisciplinary perspective can inform development of methods for stakeholder involvement, planning and evaluations when implementing AFOs. Here, we discuss the main takeaways from the study.

Navigating among definitions. In our study, the practitioners viewed AFOs as a generic, mostly open, and standardised solution. Standardisation is time and cost-efficient in large organisations. Our study shows benefits of standardisation at a micro level, e.g., docking stations or IT-equipment for meeting spaces, but standardised spatial solutions and Ways of Working did not fit unit-specific needs. According to Appel-Meulenbroek et al. (2011), AFOs are about customising office design, to allow employees to choose a workspace that best fits their activities and preferences. Interpreting AFOs as standardised workplaces leads to challenges as (i) it does not fit all, (ii) omits participatory design processes, and (iii) contradicts the core definition of AFO - to support employees' work.

Analysis of needs and customisation. In large organisations understanding needs of many work units and creating tailored solutions may be challenging, particularly in public organisations where resources are limited and must be carefully allocated. Additionally, there are structural problem about program decisions: in our case, decisions were made with limited employee participation and tight deadlines for tenders, procurement, and design. Resources and competence for making these decisions were also limited, particularly when the organisation lacks prior experience in AFO implementation. Given that implementation of AFOs is a work system change and that participation is instrumental for its success (Lahtinen et al., 2015; Brunia et al., 2016; Babapour & Rolfö, 2019), financial investment for thought-through program decisions, thorough analyses of needs and participatory design processes should be a strategic consideration to ensure well-being and overall system performance.

Negotiation capacity. Our findings show that customisations are possible with persistence and engagement of employee representatives and managers, even if the project strives for standardisation. This however creates 'unfairness' due to reliance on negotiation capacity of individual representatives that may: (i) be at relational disadvantage with the project team and excluded from the conversations, or (ii) lack interest, knowledge, resources or time for negotiation. OHS experts can help resolving such issues by acting as *political reflective navigators* (cf. Broberg & Hermund, 2004), if they are involved throughout the process and given opportunity to facilitate understanding of unit-specific needs, and mediate between different stakeholders.

Communication with managers and employees. Providing adequate information is instrumental in workplace change management (Brunia et al., 2016; Rolfö, 2018; Babapour, 2019). In our study, the provided information did not seem to reach the units as widely as hoped for, partly due to reliance on representatives and managers, some of which failed to facilitate a bi-directional information exchange. Furthermore, goals of change and new ways of working were neither clearly defined nor communicated. Limited participation of employees in change activities was another issue. Employee participation can raise false expectations if not handled well (Sorela et al., 2021), which was the case here. Change activities without clear definition of boundaries can be interpreted as pseudo-participation, giving an impression of openness rather than a possibility to influence decisions. These aspects may have discouraged employees from participation. Workplace change processes should promote dialogue and enable

employees to experience the process as comprehensive, manageable, and meaningful, thus supporting their sense of coherence (Ruohomäki et al., 2015; Wijk et al., 2020).

Unit-specific change management. Our study shows differences in extent and content of change activities within work units. This was associated with adoption of and satisfaction with AFOs. This assumption is supported by a recent study about change-oriented leadership during AFO planning and its effects on employees' perceived performance (Bergsten et al., 2021). It is therefore important to differentiate between centralised and unit-specific change activities when implementing AFOs.

Feedback loops in design processes. Our findings point to a general limitation in building industry: lack of a feedback loop (Bordass & Leaman, 2005). Designers are often disconnected from projects after completion, moving onto next projects. As a result, users may never fully realise building's potential, and significant gaps between expectations and outcomes can remain undiscovered. Consequently, designers may not learn which mistakes to avoid or successes to replicate (ibid.). In our case, designers were also disconnected from need analyses, and had a limited understanding of unit-specific requirements. Creating feedback loops during and after a project requires a shift of attitude. Clients and the industry must recognise the value of feed-forward and back through pre- and post-occupancy evaluations.

Service expectations in shared workplace systems. A transition from individual to shared workstations can reduce consumption and contribute to Sustainable Development Goals (UN, 2016; EU, 2014), more so as the organization re-used older furniture. However, this transition from linear consumption to circular and shared practices introduced new interdependencies between: (1) sub-projects for delivery and timing of installations; (2) units and the project team to negotiate customisations; and (3) units and facility management as new services are required to make sharing work. Therefore, facility management in new workplace concepts should develop service offerings and value proposition on top of a physical workspace (Petrušaitienė et al., 2018).

Methodological considerations. First, we did not include employees. Future work should combine perspectives of project teams and managers with that of employees. Second, several managers in our study were directly involved in the process and represent, similar to other studies (e.g. Sirola et al., 2021), a privileged and biased perspective. Third, our data collection was a post-mortem evaluation, capturing more significant events that participants remembered. Collecting data during the process can provide a more thorough understanding. How planning duration impacts the outcomes is also worth investigating in comparative studies. Fourth, this study was conducted prior to COVID-19. Designing well-functioning offices in the aftermath of COVID-19 remains a topic for future investigations.

5 CONCLUSIONS

Our findings show how a successful AFO implementation is dependent on (1) thorough needs analyses with attention to unit-specific requirements; (2) participative processes where employees are not merely involved to receive information, but to give feedback that translates into action or to co-create solutions; (3) iterative processes to test and verify solutions; and (4) processes that enable and ensure all work units are involved, their voices heard, and are prepared and informed about the change. Customisation is a major challenge in implementing AFOs, that depends on negotiation capacity of employee representatives, particularly when leadership strives for standardisation.

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