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Human response to Innovative Workplace Design

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Introduction

In the early 1990s, Dutch organisations started experimenting with flexible workplaces. Traditional cellular offices and open plan and group offices, which provided a fixed workspace for everyone, were no longer a matter-of-course. With the help of modern information and communication technology, pioneers switched over to sharing activity-related workplaces in a combi office. Personnel can choose from a wide range of workplaces, depending on the type of work that they do: open workplaces, concentration workplaces, touch-down workplaces, formal discussion areas, coffee corners, clubs, etc. Economic considerations (low occupancy of expensive workplaces), organisational developments (trend towards network organisations, teamwork, fast exchange of knowledge, part-time work) and external developments (globalisation, competition) are important motives for workplace innovation. Apart from stimulating new ways of working – more dynamic, less dependent on place and time – organisations hope to improve labour productivity and to make major cost savings (fewer workplaces, fewer square metres) without affecting employee satisfaction.

Various flexible offices have now been introduced within several organisation. An important question is whether these changes actually lead to improvements. Are the experiences really positive? What are the risks involved? What do we really know about the effects? What advice do we give to management? Research into the answers to these questions is still in its infancy. This is a new field of study with little academic tradition. The information on hand is inadequate and not consistent enough. The field is dominated by the opinions of proponents and opponents. Explanations for the success or failure of flexible offices are contradictory. This is remarkable given that the investments are considerable and the introduction of new working methods in an innovative office environment can involve major risks.

Research into costs and benefits

Owing to the lack of empirically substantiated insights, the Center for People and Buildings (CfPB) together with Centrum Facility Management (CFM) have initiated a study into the costs and benefits of workplace innovation. This study has been carried out by the Department of Real Estate and Housing of the Faculty of Architecture in Delft. It builds on earlier research carried out with the Dutch Government Buildings Agency and the real estate department of ABN AMRO Bank in Amsterdam. The study aims to clarify the costs and benefits of workplace innovation and to deliver methods to measure them in a valid and reliable manner. The focal point is the costs and benefits of flexible working in an innovative office with a differentiated supply of activity-related workplaces for communal use. The traditional office with fixed workplaces, usually a cellular office and occasionally an open plan or group office, serves as a reference. The study has focussed on employee satisfaction, labour productivity and facility costs. Various sources have been used, such as study of literature, interviews with key persons (initiators of innovative projects, managers, personnel, consultants) and fellow researchers, visits to innovative offices, evaluations of innovative offices, and participation in reflection meetings, symposia and international conferences. This paper describes the results of the study on use and experience of flexible workspaces.
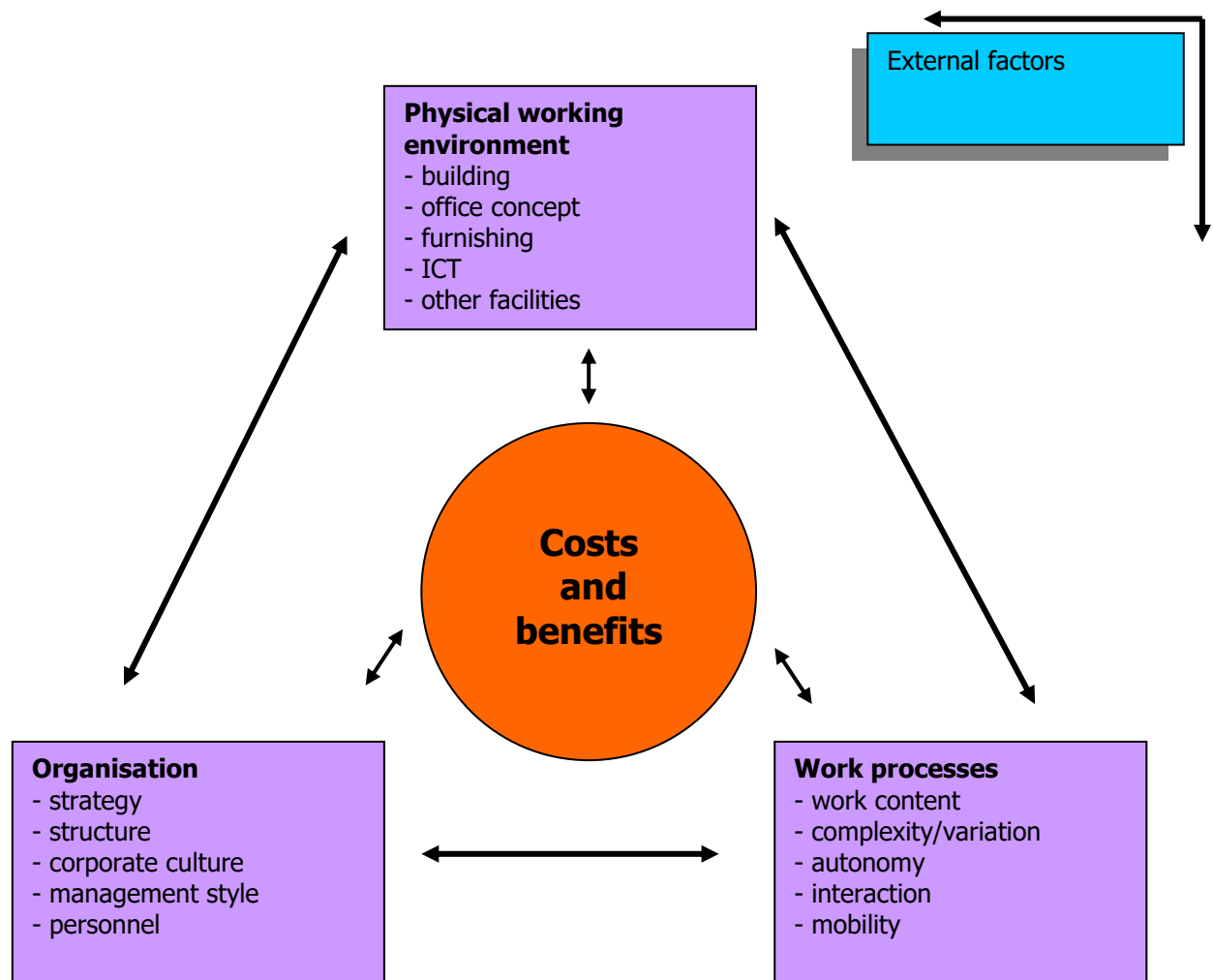
External factors

Physical working environment
- building
- office concept
- furnishing
- ICT
- other facilities

Costs and benefits

Organisation
- strategy
- structure
- corporate culture
- management style
- personnel

Work processes
- work content
- complexity/variation
- autonomy
- interaction
- mobility

Figure 1: Research model
The design of the working environment is not the only factor that influences the costs and benefits of innovative workplace design. Organisational aspects such as the organisational structure, corporate culture, mission statement, management style and personnel have an effect, too. A third important factor is the work itself. Is this interesting and varied? Do personnel usually work alone or together with others? Do they usually work at their desks or are they extremely mobile? Finally, external factors play a major role. Trends in the labour or real estate market can intensify or lessen the effects of workplace innovation. Although the study focused primarily on the effects of the physical work environment, we must be aware of the influence of such intermediary variables. So we must attempt to disentangle the complex interaction between the physical working environment, organisational characteristics, the nature of the work, external environmental factors and the effects on the costs and benefits; a plate of spaghetti as it were.

Employee satisfaction

The effects of the introduction of flexible working on job satisfaction provide a mixed picture. In various projects, the majority of people are generally positive about the new concept, but there are also projects where the majority would prefer to revert to the old situation or where the perception of work has hardly changed. The users indicate both positive and negative points. The relationship between these points and the importance that users attach to the various features of an innovative office explain, to a significant degree, the various overall judgements for each project. Critical factors in the *process* are: an enthusiastic initiator, evident objectives, a sound balance between top down and bottom up (user participation), a transparent project organisation with clear-cut tasks and competencies of various actors, serious consideration of any user resistance and proper follow-up care. A sufficient amount of time must be reserved for notifying, assisting and training employees and for managing change processes. At the same time, processes may not last too long in view of the costs involved and the fact that people may drop out. Expectations must not be too high and personnel must be made aware that everything may not be implemented in full accordance with the proposals stemming from user participation. Critical factors in the *product* are: the functionality and perception value of the workplace and other facilities, and the extent to which a balance is found between efficient and effective working and the fulfilment of all kinds of psychological needs.

Planning and allocation of flexible workplaces

A poor relationship between the number of employees and the number of workplaces is viewed in an extremely negative light. Flexible working is superfluous if there are too many workplaces, but a shortage causes much irritation and forces personnel to use ones that are less suitable (for example, concentrated work in an open plan office) or to work somewhere else, such as at home. In some projects, concentration cells are either never or barely used for this purpose. Some are used as storage spaces or smoking rooms. It is very important that workplaces are allocated properly. Personnel whose jobs have very little in common are sometimes seated together. This is particularly unpleasant when jobs that involve a high and low degree of concentration or communication are grouped together.

Psychological effects

A typical feature of flexible workplace solutions is that personnel work here and there, irrespective of time and place. This provides some with a positive feeling of freedom while others find the constant need to switch a burden. Desk sharing is at odds with the need for personalisation and an individual territory. Users often try to claim a familiar place by arriving at work earlier or by leaving items behind during their absence. The same (flexible) workplace for everyone provides fewer opportunities to express one's status. Some employees are fairly laconic while others make an issue of it. The principle of 'Clean desk' makes personalisation (personalising the desk) difficult or outright impossible. Although personnel are able to deal with this properly in the long run, this is a negative point. The effect of flexible working on social interaction is a mixed one. The ability to choose one's desk is generally appreciated. Besides dynamics, it also provides people with the opportunity to establish new contacts. As a result, they can become better acquainted with less familiar colleagues and acquire new knowledge and experience: a significant point that is scored both from an individual perspective as well as for 'learning' organisations. At the same time, close contact between colleagues who sit close to each other and work well together may be unintentionally disrupted. Evaluation of the Interpolis office in Tilburg reveals that autonomy at work and informal contacts have increased while cooperation has improved. On the other hand, opportunities for formal contact have hardly changed. The same applies to opportunities for concentrated work and participation in decision-making. The 'person-office fit' (the extent to which the workplace is tailored to the personal needs and wishes of employees) is experienced in a far more positive manner than during the old situation. In spite of this, no improvement in general well-being could be measured.

Labour productivity

The modern combi office is partly a response to the drawbacks of cellular offices (too closed, fewer good conditions for social interaction) and open plan offices (too open, too much distraction). Employees can communicate properly and work in peace thanks to a diverse range of activity-related workplaces. Formal meeting places and informal meeting points fulfil the need for formal consultation and informal contact. The combi office is expected to contribute more to increased productivity than the open plan office. In comparison with the cellular office, the effect is more difficult to predict. On the one hand, the combi office appears to facilitate communication while on the other, it produces more distraction than single or two-person rooms. Not a great deal is known yet about the actual effect of flexible working on productivity. This is due in part to the difficulty of measuring it, particularly amongst knowledge workers. In our own evaluation studies, productivity has been measured in four ways:

- *Actual labour productivity,* for example the number of translated words by a translation agency;
- *Perceived productivity,* for example by asking people to assign a report mark to the environment indicating the extent to which it supports their productivity.
- *Absenteeism due to illness* (a form of non-productivity);
- *Indirect indicators,* such as to what extent are people able to concentrate properly, or how quickly can employees solve a problem or supplement a lack of knowledge through interaction with colleagues.

Up until now we dit not measure the *amount of time* gained because filing is carried out more efficiently or staff turnover can be dealt with more easily, or the amount of time that is lost by having to log on more frequently and clearing desks on a regular basis.

In the DynamicOffice Haarlem, compared to the previous set-up (mainly cellular offices), perceived productivity has dropped by a full point from 7.5 to 6.5 on a 10-point scale. A second follow-up measurement revealed a slight recovery (6.8). Perhaps this is due to a degree of habituation. Older employees respond somewhat more negatively than younger ones (6.3 compared to 6.9). The proportion that thinks the working environment is conducive to individual productivity has decreased from 60% to 25%. Employees attributed the decline in perceived productivity to less privacy, more distraction, visual stimuli, noise and the time lost due to logging in more frequently, desk clearing, work scheduling and furniture adjustments. A positive point is the stimulus to interact; people approach each other more easily due to the large degree of openness.Newcomers were generally more positive than experienced employees. When people join the organisation, they apparently consider the environment as a fact. For experienced employees, the high expectations have not been met entirely. Unlike the DynamicOffice Haarlem, the Breda regional office of ABN AMRO showed an increase in perceived productivity. In the baseline measurement (temporary accommodation in an open plan office), only 14% of employees stated that the working environment had increased productivity. This percentage rose to 51% after the Flexido concept was introduced. The percentage of employees with a negative opinion sank from 21% to 8%. A positive point in the Flexido concept is the opportunity to withdraw to a concentration workplace where passers-by and telephone calls pose less of a distraction than before. Another positive point is the more efficient filing system.

From these two projects and many other ones it turned out, that most positive points appear to be a more conscious approach to the working environment, improved communication between colleagues, the opportunity to retire to a concentration cell or work at home, and the professional, technological infrastructure with quicker computers, Internet and Intranet and high-tech telephones. Negative points are the amount of time that is wasted by having to log on more often and search for information, loss of concentration due to distraction, continual acclimatisation and ICT-related problems, such as faltering technology, connection problems or unfamiliarity with digital filing systems.

Van der Voordt, Theo (2004), Human Response to Innovative Workplace Design. *IAPS Bulletin of People-Environment Studies* no. 24, spring 2004, 1-4.

Follow-up research

The study concludes with an argument in favour of follow-up research in the form of an additional literature study, case studies across a wide spectrum, in-depth thematic sub-studies and expert meetings. Since many variables belong to the knowledge domain of various disciplines, it is advisable to set up an interdisciplinary research programme. The intention is to carry out the following related sub-projects:

- Further analysis of compiled literature on concepts, definitions, measurement methods and effects of various office concepts;
- Formulation of a consistent and clearly structured framework of all costs and benefits, sorted according to topic (i.e. linked to the Balanced Score Card) and relevant actors (on the basis of a stakeholders analysis);
- Development of a standardised measurement procedure with fixed elements and options, depending on the objective, scope and available resources;
- Case studies into monetary and non-monetary effects of workplace innovation;
- Thematic studies in order to acquire a more in-depth knowledge of relevant sub-aspects;
- Development of decision-support tools;
- Development of a database containing examples from real life, including 'best practices'.

Note

This contribution is based on: Voordt, D.J.M. van der, *Costs and Benefits of New Workplace Design.* Delft: Center for People and Buildings, 2003. For more information: info@cfpb.nl or www.cfpb.nl.