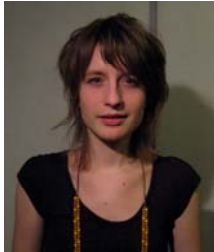


# The Workplace Game: exploring end users' new behaviour



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## ABSTRACT

This paper describes the Workplace Game and its development. Changing the workplace layout alone appears to be insufficient to change office user behaviour. Through prototyping the game was designed as a tool to stimulate discussion and provide new and concrete insights into the behavioural consequences of innovative offices. As a communication tool, the game enables office workers to exchange ideas about their office environment and makes the implicit thoughts and norms about the office use, explicit. Following the three themes of the game, people discuss values and norms, information and knowledge, and attitude and behaviour in different innovative office spaces.

## Keywords

Game, Office innovation, Changing User Behaviour

## INTRODUCTION

Since the nineties a number of Dutch companies have started to experiment with new and flexible ways of working [1]. Due to the many changes in modern society and the technical, organizational and economical context, organizations have felt the need to rethink their ideas on the office environment and the appearance of the traditional office layout [3]. The needs of the organization change and to be able to follow the dynamic growth and churn of a company, and reflect the emerging work styles of today it is important to continuously adapt the workspace. The changes in the work context should naturally have an influence on the design of the physical workplace, accommodating greater flexibility [17]. More and more companies tend to choose flexible, easily adaptable and innovative office layouts in order to cope with their rapidly changing internal and external contexts. Office innovation means 'the constant adaptation of the work environment, IT and other facilities to new ways of working to optimally support the performance of the organization' [20]. This innovation implies changes in place, space and/or use of the office environment [10].

Changing office environments ask for a very different way of working. You have to share a workstation, carry around your personal belongings or change place every time you start another activity. Office innovation is often a radical change. It entails an important turn in work processes and organisational culture [11] and often is only one aspect of many changes that simultaneously occur in an organisation [15]. Furthermore, the changes that occur in the physical office environment do not only represent different physical working conditions, but also imply changes in the way people work and interact socially. Workspaces do not only have a physical but also a virtual and a social component [13]. As the office space is shaped by different factors like technology, people, location, management and work styles, the human factor seems to become an increasingly important element. The knowledge workers of today ask for greater freedom in choosing when, where and how they work. They have become more emancipated and demanding [6].

The success of these new flexible or innovative offices is largely dependent on the way people are able to adapt to their new surroundings. People have to get used to the new working conditions and change their set ways and behaviours. They need to internalize the changes and adapt their behaviour and attitude. The success is dependant of the commitment of the users [6]. Unfortunately however, it often seems that changes in the office environment alone are not sufficient to make people rethink their old ways and change their habits and behaviour. Flexible workplaces are being used in a traditional, static manner and new facilities are not rightly utilised. Since the output of the modern office is largely dependant on human relations and the quality of the interactions in the working environment [12], this inability or reluctance to adapt to the new working conditions could have a substantial negative effect on productivity. So that innovative offices, that often are implemented to improve the fit between work and environment, could prove to be ineffective because users do not adapt their behaviour. But why do users fail to adapt to these new offices? One can think of many reasons. Perhaps they lack knowledge and skills, perhaps it is a form of resistance because they disagree with company policy or perhaps they feel like the situation is beyond their control. It is therefore important that changes are implemented in such a way that end users feel involved and engaged. Participation has proven to be an important subject in the success of change implementation.

This paper describes the Workplace Game and its development; a tool to facilitate user involvement in the implementation and management of innovative offices. This resulted from a specific question from one organisation and the more general perceived need for tools to address behaviour of workers in their innovative office environment. As new office layouts are designed and implemented, the question remains how to encourage and support people to adapt to the new situation. The background and origins of the game are explained as well as current applications, results, possible future developments and research.

## DEVELOPMENT

The concept of a new office may be thoroughly studied by management and designers, but how can these ideas be communicated to employees? How can they be made aware of the changes in the office and the implications thereof for their way of working? In response to this last question, the Center for People and Buildings (CfPB) has developed the Workplace Game.

## **A tool for participation**

Participation has often been indicated as a crucial element for successful implementation of changes (e.g. [9], [14]). There have been many different views on how participation could be beneficial; because it possesses 'goodness and moral value', because it is said to improve employee satisfaction and because it increases productivity. An additional benefit can be found in that it reduces work alienation, or the feeling people have that their work situation does not fulfil their needs, or is not compatible with their values. This feeling is related to the belief people have that they are able to influence the way that the work is organized, and thereby have more control over the fulfilment of their needs and values [7].

In many organizations it is still not very usual for users to be consulted about their office environment [6]. Organizations are increasingly realising the importance of involving their workers, and try to consult employees in the development of new offices. However, due to the impact of direct user participation (where every employee is included) often only a limited team of workers is included in the participation. Yet, all employees will need to make the new environment their own. Although the use of direct participation procedures require a significant effort from the organisation, it is important to provide both direct and indirect participation opportunities [5]. Certain tools and instruments can facilitate the more intensive, direct participation.

It is not enough to merely introduce workers in a new office context. Everyone will need time to adjust and will need to learn new behaviour that is fitting to the new ways of working. Involving close to all employees not only in the design, but also in the further management of the workplace seems to be a major factor into insuring a good adoption of the new environment. Participation should therefore not be limited to the development during the change process or implementation of the new office, but should also be integrated into the manner of working, and in this way be a part of the ongoing management that follows the occupation of the new office. In this sense the Workplace Game is an effective tool to facilitate broad user involvement. It focuses especially on the behaviour associated with the new office environment and the terms of use, making it a significant instrument to obtain the wanted change results.

## **Initial impetus**

The Workplace Game resulted from several years of research and experience by the Center for People and Buildings. The CfPB generates knowledge about people, work and work environment through the promotion of research, product development and facilitating knowledge transfer. The first real step towards the development of the Workplace Game was made after research at a large government organization in the Netherlands. It was developed in view of the need for instruments to facilitate participation in the change process and to address behaviour in an innovative office environment. In one of this organization's buildings, a new office layout had been introduced with the intention to create a more dynamic workflow and interaction, but it seemed that the changes in the physical environment to encourage this did not inspire the users to develop the appropriate new behaviour. It became clear that the modification of the office layout did not result in any adaptation of people's behaviour, especially in the by the organization desired direction. A tool or method was sought that addressed this behaviour, with eventually the goal of changing it. It was felt that simply telling people what to do and how to react to the new situation would not result in the desired outcome, but rather the involvement of the office workers would prompt them in a more active way to consciously think about their own behaviour and the consequences thereof. Something was needed to rekindle the interest of the users for their environment and make them think more actively about the way in which they were using their office.

Once the immediate cause was established, the actual conceptualization and design of the game started with the involvement of a small group of researchers from the CfPB; Hans Cox, Maartje Maarleveld, Yuri Martens and Evi De Bruyne. Soon after formulating the question, it was decided that the tool to be developed would be a game. A first setup and plan were made to determine the feasibility. The specific goals of the game were determined and the design process subsequently commenced.

### **Prototyping and the case Kadaster**

To develop a tool in the shape of a game had several reasons. First we expected a game to involve users in a more dynamic manner. Because people are all asked to think about their behaviour, discuss it and come to conclusions, they are activated more. The idea of using games in a professional context has been around for some years. Games are being used and developed for different uses and settings. They can be used for research or education; to teach players new things or to provide insight into the players themselves. Generally games can be divided into three categories; games to simulate, stimulate and test. In the first group games are designed to simulate reality. The second type of game tries to stimulate certain behaviour and the third type is used to test or as a tool for assessment [8].

As everyone can imagine, explaining and predicting human behaviour in all its complexity is a difficult task. Very many different factors shape behaviour, and it can be interpreted from different angles ranging from psychological processes to social institutions [1]. To reflect different levels in behaviour, the game questions (that form the most crucial part of the game) were divided into three different categories: values and norms, information and knowledge, and attitude and behaviour. This differentiation was loosely based on the layer theory of organisational culture of Schein. The cause for this was the idea of different levels of cultural expressions that influence behaviour. Schein makes a distinction between three cultural levels: artefacts, values and beliefs and basic assumptions. At the first level we find the observable daily features of organisational life, like actions, rituals and things. The second level includes the organisation's espoused values and beliefs; a judgement about what is good and bad. At the third and deepest level, there are basic assumptions on reality and values [16].

The first trials with a prototype version took place in a building of the Kadaster (Land Registry office). To create more workplaces in their building in Apeldoorn, it was decided to introduce a policy of workplace sharing. At the time when the game was played, the flexible way of working had already been introduced. The Workplace Game was played with 136 employees of the IT services division (49.5% of the population). The game was set in with several organisation specific goals:

- Stimulate awareness of the changes in the work environment;
- Stimulate awareness of employees' own assumptions, and norms;
- Development of shared values and norms;
- Stimulating certain behaviour in the new work environment.

In June 2007, during two weeks, eleven Workplace Game workshops were given. The results of each game, in terms of both observations made during the workshop and the response card answers were analyzed and incorporated into a report ([2]). The following conclusions were drawn:

- The building is spacious, and does not 'force' employees to work in a flexible manner;
- Most office users use the workplaces in a traditional way;

- The new office concept (the flexible use of workplaces) was not sufficiently promoted amongst employees;
- Users have a limited knowledge on use and rules that apply to the office. They have found a common solution but this behaviour does not necessarily correspond to the desired behaviour;
- To support a certain desired behaviour in the workplace it is necessary to communicate some house rules in a consistent way;
- The workplaces have contributed to making the assumptions of the employees and their behaviour explicit.

In this particular case people became aware of the fact that due to the majority not using the environment as intended, only a few people in the team were forced to search for a different workplace everyday. On a higher level, the analysis of the results enabled management to make certain decisions concerning the office. For instance: management decided to change a two-person room into a meeting room, and realized that the flexible use of offices needed to be promoted more. Longer-term results of the Workplace Game regarding behaviour and satisfaction are not yet known.

To develop the game questions further, the observations made at the Kadaster were combined with an expert evaluation of the questions. They were further tuned by subjecting them to an evaluation by a panel of four corporate real estate professionals. Since the questions are the most important part of the Workplace Game it is important to devise them as accurate as possible. They received all questions for reviewing, and then a session was organized in which all questions were discussed. Prior to this consultation, several rounds of question reviews were conducted, by the development team.

### **Goal and purpose**

The Workplace Game is in essence a communication tool that enables office workers to exchange ideas about the office environment through open discussion. It makes the often implicit thoughts about the office, more explicit and makes people aware of each others' actions and the influence thereof on each other in this new setting. After deciding on an individual answer, the player and his/her colleagues discuss the situation and possibly come to a shared solution. The game provides insight into behaviour in situations that might occur in a real innovative office environment. It was developed to discuss behaviour amongst employees already working in such an office, that is to say, after the implementation of the office change. The Workplace Game was designed to pursue the following goals:

- Stimulating discussion on new behaviour and understanding implicit behavioural rules;
- Stimulating shared values;
- Stimulating awareness of the changes (to come) in the office environment (before implementation);
- Creating awareness of ones own points of view, norms and assumptions;
- Discovering the desired behaviour of the office users within their office environment in different simulated situations;
- Creating input for the development of new rules of conduct.

Depending on the specific situation, the Workplace Game can focus on several of these goals. It also can (indirectly) provide management with information about the preferred behaviour of the office workers and could eventually generate input for the development of (new) rules and regulations.

In the Workplace Game a flexible or non-territorial use of the office is assumed; it is not suited for traditional offices. The game is specifically aimed at the user of an innovative office environment and though the game might provide new insight into the behavioural consequences of these kinds of offices, a certain familiarity with working in a flexible office is presupposed. The game is not suited for situations where players have little or no knowledge of innovative offices. When employees are aware of this type of environment and its context, the game can also be played before the implementation, or even before the finalization of the design.

An important consideration is that people that work together in real life also play together. This to simulate the real situation more accurately and encourage the transfer of the game results to reality. It is therefore important that the composition of the various groups takes aspects such as different floors, departments and/or teams into account. The Workplace Game can be played with both employees and managers. However, whether or not to let them play together should be considered carefully. Since managers are also part of the office users, it might be valuable to include them. On the other hand, because of differences in status and position, the inclusion of managers in a play group could influence the answers given by other players.

## THE WORKPLACE GAME

The Workplace Game is a board game which includes a game board, six pawns, six pencils, one dice, a 3-minute hourglass, answer cards, a booklet with the rules of the game, a guide for possible supervisors, and playing cards (figure 1). It is presented in a box that includes all materials needed to play the game. The game board has been designed to resemble an office floor plan. It has different rectangles or rooms, in accordance to the three colours of the playing cards. Three sides of the board show a series of circles where small red (implying the group did not reach consensus) and green (implying the group did reach consensus) coloured discs can be placed, representing the three themes. The starting point is in the middle of the board in a square representing the elevator shaft. A special type of rectangle holds a question mark. One might notice that the game board has a function in the game, but is not essential. It is possible to play the game, just using the playing cards. The explanation for making it a board game is that the board serves as a 'focal point'. Also, it provides immediate feedback during the game on the game results, presenting for instance the red and green discs for consensus amongst the players.



**Figure 1: The Workplace Game**

## The Workshop

The Workplace Game is played in a workshop session that takes approximately two hours. The playing itself takes one hour. Before and after playing the game a short

presentation is given. This introduction describes the background and goals of the game - both in general terms as well as more specific for the organization. The rules of playing the game are also explained. This short presentation serves to acquaint people with the game and emphasize the reasons why the game is played. The group of players is then separated into smaller groups of four to six people that will play together. In each session several groups can play simultaneously. Players sit around a table, with the playing board in the middle. Every player chooses a pawn, the cards are laid out on the board and everyone is given an answer card.

Once all the preparations are made, the playing can begin. All pawns are placed on the "elevator" square to start. During the game people wander through a fictional office that includes several different kinds of workplaces. These have been divided into three groups according to their function. The Workplace Game employs the terminology of different workplaces of the 'Werkplekwijzer' (or Workplace Guide according to its English translation) which discusses and illustrates different workplace settings, their names, characteristics and implications [19]. Just like any other board game, the players throw the dice and move their pawns accordingly. When they come upon a rectangle in a certain colour, and a player 'enters' a certain room, he/she is given a realistic situation that could occur in the workplace. A playing card in the same colour is taken and read out loud to the group. When a pawn lands on a square with a question mark, it is possible to discuss a card that was played earlier, again. For each card the answer card has to be filled in. The number of the card, the colour, the theme and answers are noted. After the question and options on the card have been read to the group, each individual has to choose the answer that reflects their own point of view. This answer is noted on the answer card. After this individual choice is made, all players discuss their answers. In this discussion, the players try to come to a mutual understanding and agreement. If the players are able to agree, they write down their common answer on the answer card. In addition, a chip is placed on the side of the board; green if the players agreed, red if they disagreed. This chip is put one of the sides of the board according to the theme of the question. The game ends after one hour of playing, when people have answered sufficient questions. After which feedback is given on the (preliminary) game results; there is a group discussion. This discussion provides the players with feedback and some quick game results. The agreement and disagreement is discussed as well the answers given in the different groups.

### Situation Cards

A vital part of the game material is the playing cards. The game contains 72 cards with different multiple-choice questions. These all consist of one question, three closed answers and one open answer ('other, namely...'). These questions describe situations that could happen in a real life office. The cards are divided into two times three categories (table 1). The first categorization is based on the type of workplace the situation refers to. In correspondence to the Werkplekwijzer [19], there are yellow 'workplace' cards, blue 'meeting place' cards and red 'facility' cards. The second categorization divides the cards into three themes: values and norms, information and knowledge, and attitude and behaviour.

**Table 1: the different categories of cards**

	Knowledge	values and norms	attitude and behaviour
Workplace	Cards 1 to 8	Cards 11 to 18	Cards 21 to 28
Facility	Cards 31 to 38	Cards 41 to 48	Cards 51 to 58
Meeting place	Cards 61 to 68	Cards 71 to 78	Cards 81 to 88

In order to correlate the game with the actual and specific office situation a pre-selection of the game cards is required. Only half the cards (36) are selected and used. This selection is based on the two times three categories as previously discussed. Cards should be selected in such a manner so as to ensure the same number of cards in every category. Every player is also given a response card to write down their own answer and the answer of the group. Figure 2 shows some examples of the different situation cards.



**Figure 2: Examples of the Situation Cards**

## Results

There are two ways of analyzing the results of the game. The first comes from the careful observation that takes place during the game. This observation can provide valuable insights into the views and comments of the players. The second is to analyze the answers noted on the response cards. In some cases a report is made, for instance, a report was made of the results at the Kadaster [2]. This reflects both the observations and the answers.

## Application

The Workplace Game has been used in a variety of settings, with positive results. So far it has been played in a large governmental organization in the Netherlands, as well as in some smaller organizations that are implementing new office concepts. The main conclusions are twofold: firstly, the Workplace Game can be seen as a communication tool to make people aware of the changing work environment, and possibly change behaviour. Secondly, the answers in response to the many questions can be analyzed to provide management with an insight into the way employees think about the workplace as reflected by their values and behaviour in the office. In the test setting, both these goals were met. It was observed that the behavioural setting and implications of the new office layout were discussed in the different teams that played the Workplace Game.



## DISCUSSION

We have described the Workplace Game, its development of and use. We discussed how the implementation of new office layouts has a direct impact on the office user. And that the intended benefits of innovative offices can only be obtained by not only changing the physical environment but also people's behaviour. By stimulating discussion and providing new and concrete insights into behaviour and the consequences of innovative offices, the Workplace Game tries to gain access to behavioural change. It was developed by prototyping, starting from a concrete question of one organisation and the experience of the CfPB. The game itself was described, its goal and purpose and a first trial.

So far the Workplace Game has been used in several organizations, both public and private. Reactions from initiators, management and employees have been positive. The Workplace Game provides information that can not easily be accessed through the existing research methods. However, the game does not promote flexible working or impose a certain preferred working method. If people are not positive about new ways of working, it might provide them with more information, but will leave them to make their own decisions, and choose answers that are in agreement with their own viewpoints.

A first attempt at evaluating the game in greater depth has already taken place. The game was evaluated from an ergonomic design viewpoint; the study was aimed at uncovering the way people play the game, and how the use of the game itself could be improved [4]. Further research can also provide insights into other possible uses of the Workplace Game. Perhaps, with some alteration, it can be used to provide a communication platform that allows the different stakeholders in office change – general management, facility management, employees, designers and architects – to discuss their different viewpoints and facilitate the creation of an office environment that complies with their different wishes. In another paper presented by the authors at this conference the game is analysed as a potential tool for participatory design [4].

### Future research focus

Although the Workplace Game seems to be a valuable tool in communicating the implications of office change, further research is recommended. Although it has had a very promising start, it should be further analyzed and adjusted. Since the multiple-choice questions are an essential part of the game, an in-depth analysis and development of the multiple choice questions could be valuable. The existing questions could also be re-examined or new questions added.

It could be interesting to evaluate the (relative) long-term results and impact of using the game: did the game help in the implementation process, did behaviour change, and do people interact differently? Questioning employees about their experiences could also provide more insight.

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