

**From concept to norm –
an explorative study of
office design
management from an
organizational
perspective**

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Keywords

Work, Environment, Design, Standards, Management, Sweden

Abstract

All organizations exist within a physical setting, and act according to the constraints and limitations imposed by it. The way an organization chooses to manage its physical space affects workplace dynamics. Explores how a standard for workspace design has developed over time in the research and development department of a large Swedish industrial corporation. This standard is intended to be an organizational tool for handling issues of office design. Departs from an open systems perspective and examines the problem of designing and managing physical space in relation to organizational levels of complexity and in terms of a wicked problem, as defined by Rittel and Weber. Results indicate that the standard was developed at a high level of complexity in the organization, and was recognized as a solution to a wicked problem. However, as the change developed into a more administrative phase, the ownership of the problem was moved to lower organizational levels, with a reduced complexity as a result. This means that the standard no longer works as intended.

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Introduction

All organizations exist within a physical setting where the built environment can be regarded as a framework for organizational activities, and thus a determining factor for on-the-job behavior (Porras and Robertson, 1992). A better understanding of the interaction between organizations and their buildings should thus be considered important, especially in relation to change activities.

The creation and support of effective workplaces is a paramount goal for the FM field (Nutt, 2000). However, it is not enough to simply look at the buildings and services provided. In order to create effective workplaces all managerial factors need to be aligned.

In contrast, from an organizational change perspective which regards the physical setting as an organizational resource together with people, technology and time, it is obvious that the physical aspect of organizational change should be on the managerial agenda. The physical setting cannot in itself create actions or behaviors, but it can facilitate or inhibit desired behaviors, and thus affects the use of time and energy in the organization (Porras and Robertson, 1992).

The design and management of physical setting in its overall context is a complex process; there are always a number of possible solutions that can be applied. These types of problems can be referred to as “wicked problems,” and tend to be hard for organizations to deal with (Rittel and Weber, 1973; Pacanowsky, 1995; de Wit and Meyer, 1998).

This study takes a holistic approach to the exploration of physical space design, using a case study to show the complexity in the process of how a standard for office design has been developed over time in a large Swedish company. The process of developing a concept into a more governing tool, i.e. a standard or norm, was not a planned process, but rather a series of reactions to counteract occurrences that threatened the form and content of the original concept. This case shows how the original links between work setting and work content change over time, moving between organizational levels of command and complexity. Furthermore, the study shows how ideas and agreed upon qualities in the original setting are gradually

transformed and distorted into an instrument for controlling purchasing and budgetary matters. The intricate character of this process is illustrated in the article, as well as how the company chose to manage the problem of designing and maintaining the physical setting. The purpose of this article is to contribute to the understanding of the meaning of physical space in organizational change. The article points out the need to make the development and implementation of a standard or norm an integrated part of the overall strategy in order for the standard to work as intended.

An open system view of organizations

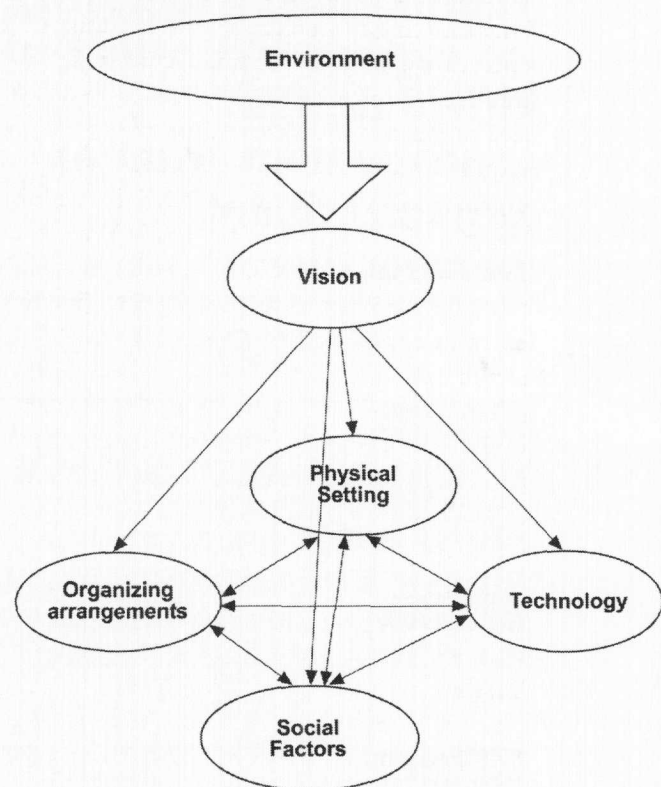
One way of describing the different interrelationships between organizational parts is by means of a model designed by Porras and Robertson (1992). The model is based on theories of organizational development (French, 1990), which can be described as "the use of planned behavioral science-based interventions in work settings for the purpose of improving organizational functioning and individual development" (Porras and Robertson, 1992). It can also be seen as the process of changing the organizational setting. Porras and Robertson (1992) suggest a framework, which identifies the key factors of the internal organizational setting that direct staff behavior (see Figure 1).

The model is composed of five key elements. The vision is the tool that guides the organization on a short-term as well as a long-term basis, stating the organizational purpose, direction, focus and motivation to the organization's members. The organizational arrangements are the mostly written, formal structures that guide the coordination of people and processes within the organization. Examples of these arrangements are strategies, administrative systems, routines and reward systems.

Social factors are the informal characteristics of individuals and work groups within the organization, such as culture, management style and interaction processes. These are the most intangible parts of the organization and, as such, also the most difficult to change.

Technology includes such aspects as different technological systems used in the organization, together with job design. The physical setting is the combination of space configuration, physical ambiance, interior

Figure 1 A change-based organizational framework



Source: Porras and Robertson (1992)

design and overall architectural design. According to this theory, the physical setting can be a facilitating or inhibiting but not a generating factor of organizational behavior.

The basic principle of the model is an open systems approach, which means that all parts are interrelated and affect each other. Therefore, congruence among the parts will lead to them complementing each other, while incongruence will likely lead them to counteract each other, resulting in organizational inefficiency and ineffectiveness. This article will link the actual processes to the model, in order to understand and give structure to that which happened.

Organizing work based on the complexity of work content

Another aspect of organizations is that they are stratified and partitioned due to the complexity of work content. Mintzberg (1979) describes six basic parts of organizations and their interrelationships. The base of the organization is the operating core, where the production of goods and/or services takes place. At the top of the hierarchy is a strategic apex, from which the

whole system is monitored and coordinated. Due to organizational size, there is a middle line, differing in thickness, between the operating core and the strategic apex that transfers the information from the top down and makes sure the bottom meets the required production levels. As the organizational size increases, there is need for analysts of different kinds, who, in the Mintzberg model, are located as freestanding parts on the sides of the middle line. These constitute the techno-structure and the support staff.

The types of tasks and the complexity at each level in the organization have also been described; the higher the organizational level of leadership, the more complex and advanced coordination and integration of different types of information are required (Bass, 1990, p. 624).

The cognitive problem solving perspective

Within organizations, there are different types of problems that demand different problem-solving skills. One way of classifying problems is to regard them as tame and wicked ones. A tame problem is a problem that has a correct solution that can be arrived at by employing the right technique. Finding the right technique might be hard, but it is still a manageable problem (de Wit and Meyer, 1998, p. 73).

The wicked problem, however, is quite different. It has no correct solution, rather there is a range of possible solutions, and the mere definition of such a problem can be a major undertaking. The wicked problem requires an iterative approach, where it is essential to move between the phases of defining the problem, gathering information, creating a solution and an outcome.

The problem of creating a physical setting within an organization concerns, for instance, organizational, technological, economic, symbolic, and aesthetic choices. There are no objectively correct solutions, which makes it a typical wicked problem. Consequently, the study explores how the issue was addressed in a particular company.

The case of the R&D department

This is an explorative, qualitative case study. Data collection was based primarily on semi-

structured interviews and documentation from the organization. During the collection of data the author acted as a participant observer in the organization. The concept of participant observer is used in ethnographical research and denotes a person who simultaneously plays the role of participant in a setting, while she/he at the same time observes what happens in order to be able to reflect on the actions (Atkinson and Hammersley, 1994).

This study concerns the origins, development and present use of a standard or norm for office design applied within the R&D department of a business area in a large, Swedish industrial corporate group. The process was complex with many actors and influencing events, and thus is difficult to describe from a singular perspective. A structure has therefore been chosen that outlines the historical events along a timeline, which is followed by a presentation of the crucial concepts and parts of the change process.

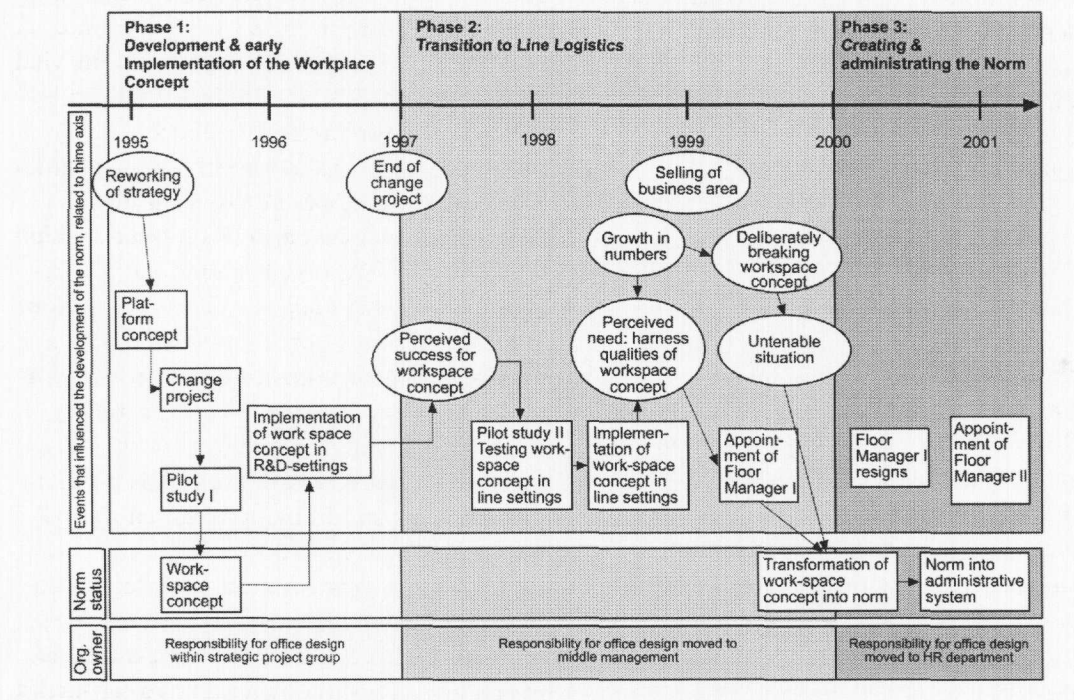
Background

The background is a major reworking of the strategy and organizational setting triggered by a failed merger in 1994. As a consequence, top management of the business area had to reformulate its strategy; a choice that would mean life or death for the business area. Inspiration was generated through a benchmarking field trip, and by early 1995 the decision was made to develop a new concept for product development based on cross-functional platforms (Ebrahimpur and Jacob, 2001). The idea was to develop a platform concept, implement it through a change program, and test the changes simultaneously in a pilot study. The standard originated as a workspace concept within the platform concept, and passed through three successive phases in which it gradually became more governing (see Figure 2), a process which will be described below.

Phase 1: development and early implementation of the workspace concept

This phase stretched from 1995 to late 1997 (see Figure 2). It comprises the design and the first rounds of implementation of the workspace concept. The ideas of the design team were tested in Pilot Study I during the spring of 1995, which resulted in the

Figure 2 Timeline showing the three phases of norm development and the different events that shaped the norm



workspace concept. In July, the decision was made to apply the concept to all the platform teams.

During the first quarter of 1996, detailed preparations were made in order to manage a smooth relocation. The goal was to be able to pack one's things into labeled boxes on Friday, go home and return to the new, fully functioning workplace on Monday morning. This goal was met and the arrangement for two waves of relocation worked very well.

The first implementation projects were done as an integrated part of the change project based on the implementation of the platform concept and were carried out by the original design group. There was also a team of change agents that were assigned to support and facilitate the shift into new settings. The platform concept implementation project was completed in early 1997.

Phase 2: transition to line logics, keeping the workspace concept together

The next phase began with the handing over of the platform concept from the change teams and strategic management to the line organization. In this transition, the organizational structure was unclear regarding areas of responsibilities in the design of physical settings, as well as regarding the distribution of space between the teams.

During 1997 and 1998, the organization worked with consolidating the platform concept. Overall, the workspace concept was perceived as well functioning. A second pilot project was carried out, which tested slightly modified team settings in line work. This resulted in a decision to implement the workspace concept throughout the R&D department, in order to make it easier to restructure and reduce costs for moving. In the fall of 1998, it became evident that documentation of the workspace concept was needed in order to carry the basic ideas and benefits into future applications of the concept.

1999 began with the sale of the business area to a multinational company within the same industry. The sale did not, however, mean that the strategy in terms of the platform concept had to be changed, but other organizational factors changed. One of them was the status of the purchasing department, which became more influential in organizational decisions.

In March, a floor manager was appointed in order to secure the evaluation, documentation and continued implementation of the workspace concept, which had started to diffuse. This coincided with rapid growth in the number of employees within the department, resulting in a shortage of office space. The shortage forced management to break the workspace concept deliberately and

forced more people into the office landscapes. This not only meant that they became more crowded, it also meant that planned construction of quiet rooms and team rooms for meetings were postponed. The floor manager had no formal authority to steer the development and had to act as a mediator between different levels of the hierarchy in a battle for square meters.

The increased number of persons in the office landscapes led to high noise levels and cramped workspaces. When talking about this, the respondents tell stories about how during nights and on weekends screens would mysteriously appear (there were still screens in other parts of the building) and move around in the landscapes. These phenomena were seen as indicators that the workspace concept did not work, although the workspace concept, in fact, was no longer applied as intended.

Phase 3: creating a norm and administrating it

The lack of space accelerated the need to make the concept a stricter organizational instrument in order to guarantee the qualities of the physical setting. In January 2000, the workspace concept was made into a "Norm for Team Adapted Office Environment" (henceforth referred to as the norm) on the approval of top management of the R&D department. The change in status meant that the floor manager received a stronger position in upholding the qualities of the original workspace concept.

During the fall, the responsibility for the physical space was placed on the human resource (HR) department after a discussion about whether to start a new project based on the norm or to incorporate it into the administrative system under the economics department or the HR department. None of the managers in question wanted the issue in their department, and finally it was placed on the HR department. In this process, the first floor manager was given other assignments and a successor was appointed in March 2001. In July, an introduction of the norm into the business management system as an instruction made it even more governing. At the end of 2001, the norm was implemented to 80 percent in the business area. The estimated timeframe for complete implementation is two or three years.

The platform concept

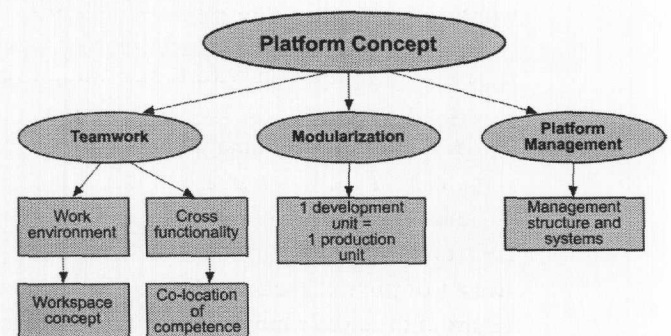
A platform strategy entails developing and building several products from largely the same components; only the components vital to customer product identification differ between the products (Ebrahimipur and Jacob, 2001). The aim is to shorten lead times and reduce development costs. In this case, the platform concept also involves a transition from a line-based organization to a project-oriented organization, as well as a transition from a sequential development model to a simultaneous model. All in all, the platform concept entailed a complete restructuring of the organizational setting.

There are three vital parts of this platform concept; teamwork, modularization and platform management (see Figure 3). The teamwork idea involves sharing information and cooperating in order to maximize the output and development of the team. This part can be broken down into two sub-areas; cross-functionality and the working environment. The meaning and function of the working environment is the subject of this article and will be discussed below.

Cross-functionality involves getting all the competencies to work together and communicate through the same channels, such as digital file sharing systems. Modularization means that one unit in development correlates to one unit in production. Platform management involves the managerial aspects that were reworked into a three-dimensional structure; project management, line management and process management.

One major consequence of the platform strategy is the need for shared understanding of work methods and common values throughout the organization. This was managed by means of co-location, which means gathering all the competencies that are

Figure 3 Illustration of the platform concept



needed for the development of the platform in the same office landscape, so that the members of the teams can cooperate on a daily basis.

Physical space within the platform concept

At the beginning of platform concept development, the physical setting was regarded as one area of action, among others. However, as the work progressed, the actors realized that the physical setting carried an important symbolic value in manifesting change and, as such, became a tightly integrated part of the platform concept.

A design team was put together to develop the workspace concept. The design team constituted persons representing a broad organizational competence with an architect and a change agent at the core. What they were looking for were enthusiasts with a personal interest in design and teamwork who believed in the platform concept. The goal of the group was to design a concept for the layout and configuration of the physical setting that would be implemented throughout the teams. At this stage, cost was not an issue.

The workspace concept

The design group was to create an environment that would be perceived as a symbol for the changes made in ways of working, a better physical setting and a facilitator for the planned teamwork. The design group strove to create an office that would have total flexibility in placement and team size, so that team constellations could be changed on a daily basis.

The pilot study used a full-scale setting where the new furniture and layout principles were tested by one of the new teams. Work with the design was coordinated with support from the change agents as regards work procedures, technological systems and team working.

The design of the workspace concept was based on the principles of activity settings, as described by Stone and Luchetti (1985), which means that there is a best place for every task. This resulted in solutions such as quiet rooms for individual work, team rooms for large group meetings and open meeting areas for groups. Keywords that the informants use to describe important qualities in the office landscapes are flexibility,

mobility, openness, visibility, communication, and teamwork. These were manifested in a mobile storage unit, wireless telephony and a high degree of standardization in the workplace. A standard layout was developed to which the teams would be adjusted.

The teamwork objective was to access the complete range of competence within the groups. Making the environment a supporting factor for cooperation, openness in information sharing, communication and decision-making on an ergonomically sound basis were all emphasized. The information sharing principle demanded a system for common storage of information, which was achieved through digital document and information systems. Information that could not be stored digitally was gathered at central information points within the team. This was a prerequisite for a solution entailing one storage unit per person.

The parts of the workspace concept

The starting point of the concept was the individual workplace, which included a height-adjustable table, an adjustable chair and one mobile storage unit. These were arranged in different patterns in the landscapes; the original landscapes contained approximately 200 workplaces. In addition to the individual workplaces, the landscapes included quiet rooms for individual work, team rooms for team meetings and space for presentations, meeting areas for small meetings and conversations, recreational areas for coffee breaks and service rooms with printer pools. No screens were allowed, instead space was used to separate units.

The configuration and development of the present norm

The scope for applying the norm was the same as in the original concept, but was expanded to include the surrounding service areas and rooms. The idea of space as a divider has not worked as intended, since space is usually perceived as a possible expansion area by management, and thus plants and venetian blinds are used to mark boundaries between groups. Screens at the individual level are still not allowed. However, flexible screens are used to shield workgroups from heavily trafficked passageways.

There is also a perceived need for additional standards or norms in order to control the

design of supplementary spaces, such as non-teamwork settings, conference rooms, restaurants, cafeterias and reception space. To meet these needs there are different stakeholder groups working to develop the new norms.

The norm today enables rationalization of the ordering process; everyone knows what they are getting and this makes it easy to stay within a defined budget.

The floor manager role

The original role of the floor manager was to secure and evaluate the implementation of the workspace concept as well as to document it in order to harness its qualities and purpose for future use. Today, the role of the floor manager has developed into taking responsibility for all aspects of the interior environment. The focus is on maintaining and implementing the norm as it is, building a structure for the daily administration of the norm and, when needed, supplementing it with new standards or norms. The role of the floor manager also includes reviewing present contracts with subcontractors.

According to respondents, the outcome of the new structure, so far, is a better administrative handle on the situation, an established chain of command, forums for different questions, and better data for decision-making. However, a lack of resources limits the work, and some questions simply go unanswered.

What are the differences between the workspace concept and the present norm?

One major difference between the original workspace concept and the present norm is the *raison d'être*; the original workspace concept was a tool for supporting change and new ways of working while the present norm is regarded as a tool to facilitate planning, ordering and budgeting. Another difference is the type of commitment driving the use; the workspace concept was about a better organizational state and a moral contract, while the present norm is a governing rule, upheld by regulations.

Discussion

During the first phase, all five areas of the model proposed by Porras and Robertson

were worked through and put in relation to each other (see Figure 4). The platform concept has proved successful in several areas; among others the department has been able to increase the number of product models and decrease costs after the implementation of the platform concept.

However, since the creation and implementation of the platform concept, there have been changes in the conditions for different parts of the model. These changes have meant that the congruence created in the beginning has been disturbed. The different parts of the model can be seen as having been ascribed to different parts of the organization, with the organizational owners as stakeholders in matters of management and development (see Figure 5).

The organizational owners are permanent functions in all cases but one, the physical setting, in which the owner was the temporary design team, which was disbanded after the first phase. This led to a situation of perceived lawlessness and a diffusion of the workspace concept. The appointment of the first floor manager and, later, the creation of the norm as a rule were measures used to counteract this development. However, the simplified application of the norm, detached from the original organizational context, has not generated the intended results and is more of an administrative tool than a tool to support the working processes. The introduction of the present floor manager has meant an improvement in the operational situation, but there is still no coherent structure for the integration of organizational and physical issues, as there was during the first phase.

The issue of designing and managing physical space was treated as one of the core aspects of the platform implementation. As such, the issue was handled at the strategic level of the organization, and was addressed as a wicked problem with stakeholders from different organizational parts involved. As the first phase of implementation came to an end and the responsibility for managing office design was handed over from the strategic level to middle management, it also started to travel down the ladder of complexity within the organization (see Figure 6). Reducing the issue of managing physical space to a more operational level meant reducing the chances of addressing it as a wicked problem, and thus the connections to other organizational parts

Figure 4 Illustration of the model and the platform concept combined

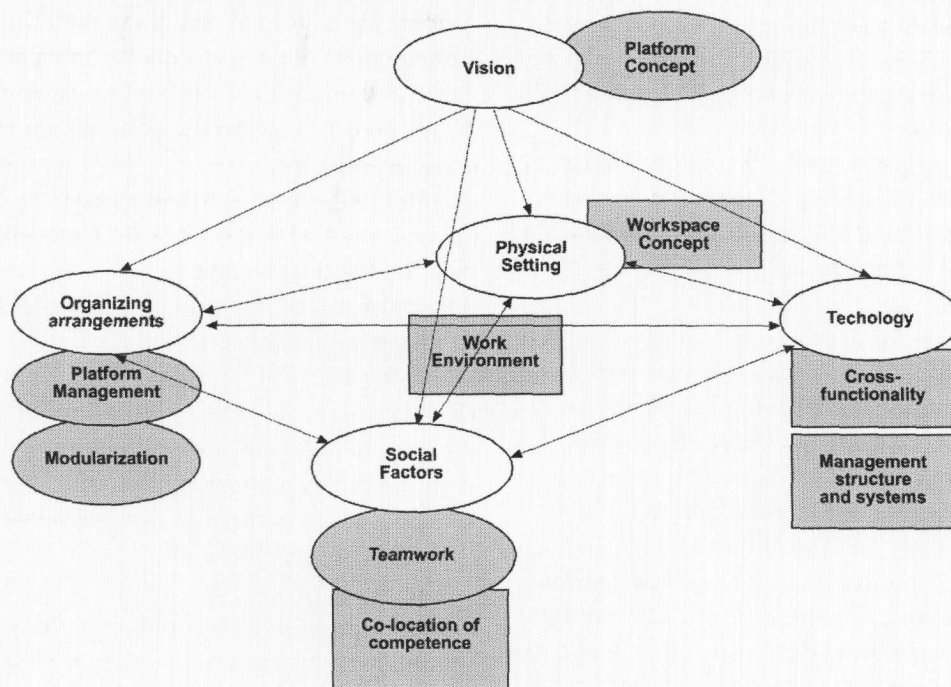
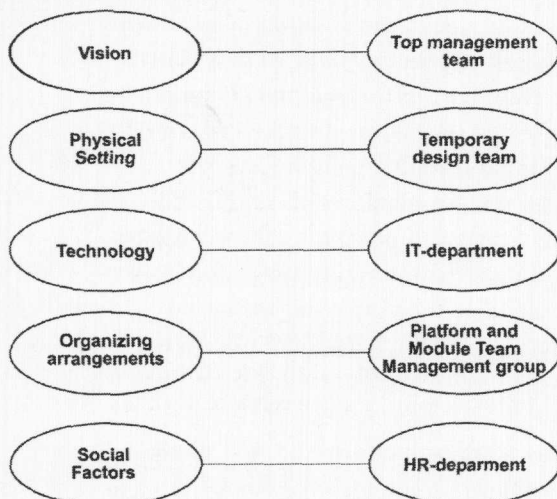


Figure 5 Organizational owners



that were so important to the creation of the workspace concept were lost.

Drawing from literature (Pacanowsky, 1995), wicked problems within organizations generally tend to be subjected to the same fate as in this case. Organizations are very good at handling tame problems and try to treat wicked problems in the same way. Decision-makers need to understand that designing and maintaining the physical setting as a part of the organizational setting is a wicked problem.

The original workspace concept was designed, implemented and developed as a central part of the platform concept. The

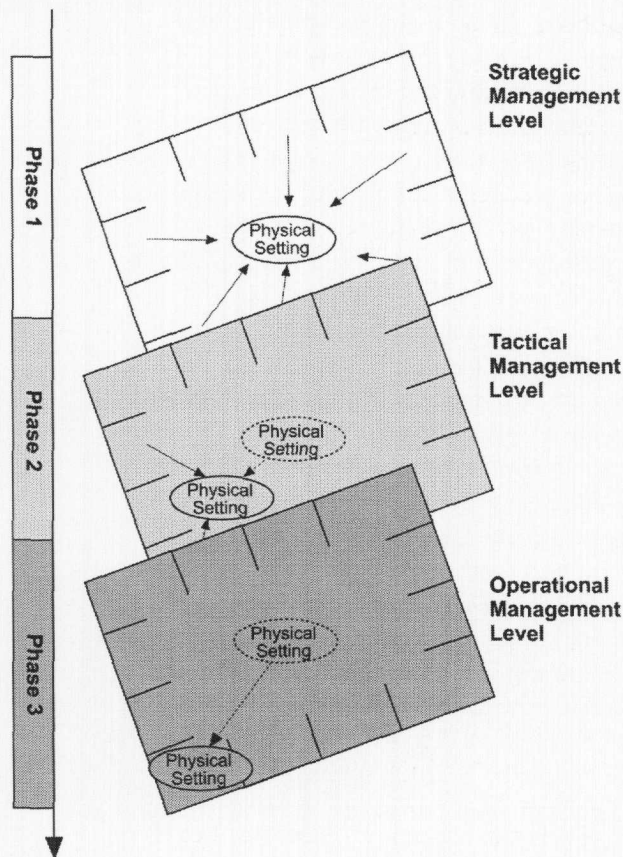
designers were part of an integrated process and the connection between strategy and design was clear. Today, the norm is implemented as a local function and its integration with central processes has been lost.

Additional findings

During the study of this organization, a number of additional areas emerged as important to address in designing and managing physical settings. One of the recurrent themes among the respondents was the role of the workspace concept as a symbol of change. This emphasizes the importance of managing physical space as a symbolic asset within the organization and of understanding how physical artifacts symbolize organizational values (Hatch, 1990).

Another interesting finding is the role of economic reasoning. During the first phase, the design and early implementation of the workspace concept, cost was not an issue since the survival of the entire business unit rested on the success of the platform concept. It was more a question of creating an attractive and functioning environment that would help generate the world's most successful R&D processes. However, as things started to settle, more and more attention was directed towards the economic aspects of the workspace concept and today the norm is rationalized as an important tool

Figure 6 The process of simplifying management of the physical setting; time, the transition between organizational levels and the perceived number of different forces on the issue



to keep costs in check. The focus of the facilities management function is no longer on developing a great place to work, but on minimizing the costs of physical space. This shift in focus and driving rationales has implications for the further development of the norm and must be addressed in order to help realign the organizational parts as described by the model.

Conclusions

For many reasons, the practical need for a standardized workplace concept is obvious in an organization of this size. It makes logistics and purchasing easier as well as helping to build corporate identity through the use of symbols and overall image. However, when a workplace concept is regarded as part of the overall organizational setting, standards or norms need to be pushed beyond the level of layout patterns and integrated into the

strategic processes of the organization in order to help create a good organizational environment. The alignment of organizational components is essential in order to achieve a thrust in the solutions chosen, an alignment that is hard to maintain without a strategic perspective. The findings of this study imply that the design and management of physical settings in organizations is a wicked problem that needs to be handled on a strategic level of sufficient complexity.

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