The Next Frontier: using space as management strategy
an exploratory study
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The next frontier: Using space as management strategy - An exploratory study

Abstract

Purpose (mandatory) More and more companies use physical space as a way to enhance creativity, create change and stimulate interaction. This research investigates how space affects this interrelationship and explores how space can support organizational strategy.

Design/methodology/approach (mandatory) Using a qualitative approach, this study explores three cases from an educational, a cultural and an industrial setting to illustrate how space can be used to support an organization’s policy and help its strategic intentions.

Findings (mandatory) The findings demonstrate how space can be used to enhance organizational strategy and demonstrate how closely the creation of space can be related to the development of that strategy. Specifically, the study finds that the ‘space-organizational strategy’ link has three uses: (1) “Space as an organizational meeting place” in the University campus, (2) “Space as a network organization” in the culture and production center and (3) “Space as a cell organization” in the private manufacturing company.

Originality/value (mandatory) The study will show that the design and operationalization of spaces can influence management and organizational strategy, as space influences relations between people. That organizations can use space to support their strategic intentions seems to have been overlooked in the literature.

Keywords: Space Strategy, Design Management, Organizational Change, Interaction.
Introduction

More and more organizations use physical space as a way to enhance creativity, create change and stimulate interaction among employees (Storvang et al., 2020; Kristensen, 2004; Doorley and Witthoft, 2012; Gruber and Tal, 2017). The importance of investigating space has been seen in different settings such as office layout (Grangaards, 2009; Leonard, 2012; Luck, 2014), urban spaces (Munro and Jordan, 2013) and spaces in the educational sector (Oblinger, 2006; Nussbaumer, 2014). For example, preliminary studies from the project “Design to Innovate” indicate that Danish companies such as GJD, Royal Copenhagen and Kähler are able to use workspace and company areas to place themselves in a specific league to attract certain types of customers and collaboration with other companies (www.d2i.dk, 2014). This trend of companies towards using space as a way to tell stories about who they are and how they work in order to attract customers and the right employees has also been seen in companies like Google, Lego, Nike, Virgin, Johnson & Johnson and Innocent (Groves and Knight 2010).

Research shows that there is a need for organizations to be more concerned about how to create spaces for interaction (Paludan, 2010; Luck, 2014). Hatch and Cunliffe (2012) indicate ‘loose ends’ in organization theory concerning learning, knowledge management and identity in relation to organizational culture and physical structure (p. 303). This means that there is a need to look closer into how the physical space can influence an organization. Taylor and Spicer (2007) indicate that now more than ever the time is right to acknowledge space as a key dynamic in understanding management and organizations. At the same time, only few papers have looked at industrial space and examined how a spatial layout could be effectively arranged to support the companies’ production strategy (e.g. Weber, 2012). This emphasizes the need for research to take a closer look into how space in different industries
can influence an organization’s attempts to either support or change their organizational strategy.

To date, only few papers have looked at how space can support an organization’s management and business strategy. To fill this gap in the literature, this research will investigate how space can be used to support organizational strategy. It will look into the ways in which organizations can use the creation of space in their strategic considerations in generating interaction, learning and new relations. In order to explore this, three cases with maximum organizational variation in special scale and organizational levels (Taylor and Spicer, 2007) from an industrial, an educational and a cultural setting. The cases have been chosen to illustrate how a special layout can endorse the organization’s policy to encourage and back its strategic intentions for what, why, and how they want the organization to be developed (Sinek, 2009) to support its organizational strategy. The what, why, and how is in this research developed into a framework to analyze the organizational strategy and the design of space supporting the strategy. Implications exist for organizations that embrace space as organizational strategy to develop competitive advantage based on differentiation.

**Literature and theoretical framing**

*Drawing from design theory*

The tendency to create extraordinary spaces in workplaces has led to research and experiments with re-design and the creation of social spaces that can enable increased collaborative working (Luck, 2014) and the need to establish physical environments that can accommodate personal and individual workspaces within open spaces (Grangaards, 2009). Documentation of studies on the human factor in the built environment has been found, in which certain types of users, e.g. the elderly, children, and disabled, have been subject to studies (Nussbaumer, 2014; Rengel, 2014).
The design literature also includes reports on how space can set the stage for creative collaboration (e.g. Doorley and Witthoft, 2012) and how new spaces influence work processes (Borges et al., 2013). Similarly, the design literature investigates how the physical context, the confined space, can restrict and enable interaction and how the induced emotions of this framing can facilitate or reduce creative processes and interaction (Kristensen, 2004). Furthermore, various types of case studies on the shaping of interior spaces have been located including studies on the different use of architectural elements e.g. material, form, patterns, expression, order, balance and enrichment (e.g. Rengel, 2012; Plunkett and Reid, 2014; Rengel, 2014).

But nowhere in the design literature is the focus on how people in organizations can use space in a strategic way to create an organization because space is often viewed as how it can be used in terms of business and commercial building (e.g. Duffy, 1999) but not as the impact space has on an organization. With this departure point in design literature on workspace planning, creative spaces and spaces for learning, the theoretical framing for this paper will also build on literature from design management and organizational literature to explain learning and organizational change. Duffy, Laing and Grisp (1993:164-214) has pointed out that the organization can have impact on their workplace but the aim of this article is to discuss how spaces can support organizations from a strategic perspective. Due to its multidisciplinary stance the paper will regard an organization as a frame for people’s working and learning, a notion that we consider neither as a living organism nor as an absolute metaphor.

Organizational change and learning
Conducts of organizational change and learning are rooted in human resource and management literature and focuses on how people can be used as change agents to make improvements in an organization (e.g., Yu et al., 2014). But really to change life....we must change space (Lefebvre 1991: 190). Storvang and Dalby, (2015) have also suggested that space can create an impact on how people in an organization relate and interact in their collaboration internally and with external organizations. So in this sense ‘space matters’ because it is “…a living system, a collection of interacting, and adjacent patterns of events in space”(Alexander, 1979: 74).

With regard to management literature, Cooren et al. (2008) argues that in shaping organization, theory on firms are mainly associated with economics, management, and social psychology to guide research and practice in their work (ibid.: 1157) which leaves little concern for other issues such as strategies on the use of space. Other research on organizational theory has explained how the creation of identity is important to an organization in relation to organizational culture and physical structure (ibid.: 303). Dale and Burrell have also looked at how identity, power and materiality are important both to the spaces of organization and the organization of physical space. In their examinations they go beyond an exploration of physical settings by looking at how the social and the material are entangled with modern life, which calls for a rethinking of mainstream theoretical approaches (ibid.: 203). In doing this, Dale and Burrell (2008: 203) argue for the re-conceptualization of theory by including materiality and embodiment as part of the social production of space. Some of the concepts they discuss are the use of different spaces over time and the different use of space during the day (ibid.: 241 – 243). Another concept is having alternative spaces for various purposes to create change and dissimilar working patterns (ibid.: 243 – 244). Concepts for opening up spaces to be more transparent in an attempt to pull down barriers and division of work (ibid.: 257) or to engender a more democratic approach to work in an
organization (ibid.: 258). Dale and Burrell (2008) also point to the concept of private property and power as an alternative to organizing space (ibid.: 269 - 278). As pointed out the relationship between property and space is linked to what is the individual, the local, the civic or the state level at which the concept and reality of private property is critiqued (ibid.: 276). This is similar to how Taylor and Spicer (2007) have adapted Lefebvre (1991) in defining special scale and organizational levels as 1) a public space (Macro), 2) a semi-public space (Meso) and 3) a private space (Micro). These three levels will later be used in selecting the cases.

But so far, this research has found that none of the management or organizational studies focus on what, how and why space can influence and support organizations in their strategic considerations for organizational development. Much of the literature on company design and organizational strategy is more often concerned with managerial challenges in relation to goals, performance, system, structure, economy and processes (e.g. Mansfield, 2013). Cooren et al. (2008) point out that there is every reason to believe that organizational research will continue to study organizations and organizational phenomena through sociological, economic, discursive or psychological lenses, which leaves little concern for other issues such as communication, interaction and strategies on the use of space. This is further supported by a review of organizational and management literature that shows a relative paucity of studies of space Fayard (2012). Finally, Dale and Burrell (2008) argue that further conceptual development towards defining organizational spaces is needed. Building on this line of thinking, the present paper will in the following look into how an organization can use the creation of space as strategy in generating interaction, learning and new relations.
Method

The choice of using case studies in this research is related to the notion that “the interaction between a phenomenon and its context is best understood through in-depth case studies” (Dubois and Gadde, 2002, p. 554). Attention was also given to variation (Miles and Huberman, 1994) in terms of illustrating spaces with maximum variation at three different organizational levels: a public space, a semi-public space and a private space (Taylor and Spicer, 2007). The case studies present: 1) A new university campus hosting Faculties of Humanities, Engineering and Business and Social Sciences; 2) A culture and production center for performing arts, visual arts and literature and 3) A private manufacturing company of air-laid technology for non-woven fiber production. All the cases are from a Danish setting. The studies consist of three semi-structured interviews with management and/or architects as well as a series of observations on the different locations. This also included regular visits at the premises and meetings on site as well as a series of unstructured conversations with employees and researcher about space and how space matters both as conceptual discussions and talks about how the observed spaces matters in relation to their work and use of the facilities.

The case of the campus and the manufacturing company has both been followed as a longitudinal study by participating in on-going discussions with people in the organization about space considerations in relation to the development of their organizations. The researchers of this paper have in the case of the university campus participated in several formal and informal meetings discussing strategies on workplace and spaces for learning. Further, the case of moving the campus to the new university facilities has been used by one of the researchers as a teaching case, in which groups of students facilitated interviews with stakeholders and other students concerning issues in relation to the move to the new campus.
Finally, all the data includes secondary data from Web pages and other organizational documents.

In the following the three cases will be presented and after each case the design of space and organizational strategy will be analyzed as well as three themes will be identified as: 1) “Space as an organizational meeting place” in the University campus, 2) “Space as a network organization” in the Culture and production center and 3) “Space as a cell organization” in a Private manufacturing company.

**Case 1: The new university campus**

The first case is the open space of a new university campus that hosts Humanities, Engineering and Business and Social Science faculties. The idea for the campus is, according to the Associate Dean and former Head of Campus, a “main station for open knowledge” that could facilitate cross-disciplinary work. (see figure 1).

**INSERT FIGURE 1 HERE**

The red dots represent the different departments and units within the departments, but also studio facilities for specific groups of students and different spaces as meeting, class and other supporting rooms. The smaller black dots characterize different individuals attending courses, meetings and other types of activities as collaborators, guests or visitors.

**Analysis of design of space and organizational strategy in the university campus**
The co-operation across faculties is the overall profile of the campus along with the strategic focus on interdisciplinary as an initiative to enhance Design Research. Encouraging students and researchers from different fields and departments to work together by embracing interaction and student centered learning is the core idea of the new campus. “If research is supposed to concern the real world, it is a good thing that the university and the real world meet” (Associate Dean). This design approach to learning also plays a significant role in education, research and in the co-operation with public institutions and companies in the region.

The challenge of collaborating and working together across disciplines in the different departments, interacting and learning from each other, has in many ways been translated into the huge, open six storey high space in the center of the new campus. Internally, the open space is transparent as it is possible to look across the space to the other departments at all floors. It is also possible to extend the more private department spaces into the big open space to share and exchange knowledge. Since the open space is a student working area, the students to a large extent act as agents across the space and they also represent the ways of working in the different departments. The more private areas of the various offices along the perimeter of the building have glass doors, so the transparency is extended into the offices and further out into the city.

Case 2. Culture and production center

The second case is a public space organized as open workshops for performing arts, visual arts and literature (www.godsbanen.dk, 2015). The spaces are a re-design of an old closed rail freight facility that is located close to the city’s other cultural places such as music scenes, venues, theatres, museums and art exhibitions. The aim of the center is to create a
multifaceted cultural production complex across the arts to develop talents, but also to make the city visible and strengthen the city’s position as a cultural, national and international center for innovative art – and cultural production.

According to manager of the workshops the center functions as an “idea factory” for creative people, who wants to design their ideas, makes projects, create exhibitions and events or test themselves in a creative and open environment (figure 2). He describes the facilities as a “transformation factory where dreams can become reality” and he also explains how the open workshops can create “stars” that can earn their own living from their talents (Hansen, 2015a).

**Analysis of design of space and organizational strategy in the cultural production center**

The idea behind the design in the culture and production center is rooted in the idea of railway tracks where people visiting the center can go into different compartments to work or to participate in activities, exhibitions or other types of events. The comparison to a railway is also reflected in the name of the rooms as: *Train Remise, Boiler, Railway Wagon, Platform and Railway Track etc.*

The complex includes predefined spaces for particular artistic groups, and open workshops, and project facilities for graphics, laser cutting, textile, montage, wood and metal workshops. The supplementary spaces outside the building are further extended along the old
railway tracks with alternative workshops, additional spaces for subcultural activities and other types of open street events. The organization of the place is community driven and the idea is for people to meet, create networks and new organizations and to put the city’s culture on “track”. In this sense, the center has an event driven space strategy, where people can jump “on” and jump “off” when activities pass by and people are on the move to create new opportunities and learn together in their production and creation of art and new types of cultural events.

**Case 3: Private manufacturing company**

The third case is a private engineering company working with air-laid technology for non-woven fiber production for all kinds of natural and synthetic fibers. The company has a pilot line with a testing facility where the company can, in cooperation with their customers, develop their production. Their customers are mainly very big companies in other industries where they are experts, specialists or lead users in their field.

This means the company is really keen on learning and working together with their customers since they are specialists. Equally the company is an attractive partner to collaborate with as they are able to work with the restrictions, contractual constraints and strict specifications from user requirements. On the other hand collaboration is difficult to initiate as the company has to be extremely careful about revealing what they are developing together with their customers. In order to do, as the Managing Director points out it is “...important to create a long-term trust relationship with our customers and the customers need to be able to trust the company in their collaboration” in order to protect their business secrets and visa versa. In their collaboration with the different customers they therefore need to separate the different types of customer collaboration, which also demands the separation
of production technologies and types of fiber production. In order to do this the mother company divides the company into closed cells as different smaller organizations (figure 3).

**INSERT FIGURE 3 HERE**

The red dots symbolize the different customers that the mother company works with in the different business areas.

**Analysis of design of space and organizational strategy in the manufacturing company**

When the company develops new products by working with a customer, it hires spaces as new storage or warehouse space in the nearby surroundings that are within walking distance from the mother company area.

The warehouses are then turned into different production areas with one big space for the production line and the additional areas on the location functions as storage for what is produced and tested on the specific production line. As such the company only needs to have supporting facilities such as offices and meeting room etc. in one location. This makes it possible to run different kinds of productions and tests with different kinds of materials but also to alter the production line according to the material that is tested.

But it also means that the customers and business can be separated into different organizational cells even though the technology is fundamentally the same. At the same time this approach also reduces the need for employing new staff every time they go into a new market, since the same employees can be used in the various production areas regardless of which customers they are working with. This also makes it possible for the company to grow without hiring new and untrained staff or making large investments before entering a new
market. In principle the technology is the same in spite of customer segments so basically whenever they want to enter a new market they just hire some more space because they work closely together with the customers. So in practice the customers support the project with staff as they work along at the project as specialists and experts in their particular field of work.

In the following the analysis of design of space and organizational strategy of the three cases will be further discussed.

**Discussion**

In the cases, three approaches as to how to work with space to support organizational strategy have been presented: 1) “Space as an organizational meeting place” in the University campus, 2) “Space as a network organization” in the Culture and production center and 3) “Space as a cell organization” in the private manufacturing company. As already introduced the what, why, and how the organization is being developed to support its organizational strategy (Sinek, 2009) is in this section developed into a framework to analyze the organizational strategy and the design of space supporting the strategy (table 1). The organizational strategy of space in the three cases of the University Campus, the Culture and Production Centre and the Private Manufacturing Company are compared in the following:

**Insert Table 1 here**

**Space as an organizational meeting place**

In the case of “space as an organizational meeting place” in the University campus the space has according to the chief architect the intention to be the “...main station of knowledge”
from the very beginning. The new building should help facilitate new approaches to teaching and make the organization more transparent, making it easier to see and get inspired by each other.

Right from the start, the heart of the new university has centered on the concept of collaborative space. As the chief architect states: the job of the architects has primarily been to provide “a lot of different spaces for collaboration with each other”. The architects’ design intentions were to ensure intimacy by making the distance between spaces short in order to engender the feeling of cohesion and enable people to see each other across the spaces. The glass box meeting rooms, the desks along the perimeter of the atrium, the lounge areas, the stairs ascending from a large open space at the bottom of the building, the reading rooms and the visual lines into the library and canteen are elements introduced as answers to ‘how to make a transparent building with focus on interaction’.

As well as an effort to break down the traditional academic boundaries the campus is further designed to open up for collaboration with the outside world and accommodate collaboration with external organizations. In this sense the university campus has a space strategy both to enable the organization to change in the new facilities created as a meeting place for interaction and collaboration, and also to learn together to create new opportunities.

**Space as a network organization**

In the case of “space as a network organization” in the culture and production center the space is about community driven learning. The idea is for people to meet, create networks and new organizations in a sub cultural environment. Here they can tap into the community to learn as they grow their talent.
An example of this a design company which grew out of the production center to develop their own store where they sell Scandinavian Design in a high class shopping district. As the owners of the design company explains, he has learned and got to know how to do this from his experience in the cultural production center. As the company grew there was a need for them to have their own store to get into closer contact with their customers and study them in order to understand what they were thinking about the products (Hansen 2015b). Although they now have their offices in the store they still use the cultural production center as “a factory for new ways of thinking” and as “a laboratory for development”. At the production center they have facilities they can use to learn from others in order to make inspiring projects with them.

**Space as a cell organization**

In the case of “space as a cell organization” in a private manufacturing company, the organization is divided into smaller cells. Businesses and customers are separated when the company collaborates and tests new products and processes with their customers. From this they can use the business-customer interactions to learn and generate adequate knowledge and legitimacy in a new market. In this way they can also learn about the industry and its product application and create the credibility and position necessary in order to become known in the new market.

The Managing Director explains that they are dependent on their cooperation with the customers in order to learn about their needs. They need to work closely together with them to understand how they act in the emerging market including how they sell and organize in order to penetrate that new market. In order to work with this type of sidestepping the company needs to divide the different collaboration partners into closed cells, which are not
dependent on each other, so they can operate with them individually. This also means that different business areas and customers are separated to different locations. Equally, as the different customers do not collaborate or interact, and as the business areas are not dependent on each other, it is also possible to sell off a business area if it is not interesting enough for the company portfolio.

**Discussion across all cases**

All three cases have learning and space as a change agent as central issues in their strategy. It is therefore interesting to compare and look at how space can influence an organization’s learning and willingness to change. It is also important to explore how learning is facilitated and mediated as a social practice, as this is one factor among many in a complex relationship that engenders learning outcome (Oblinger 2006). This understanding is in line with Brown and Duguid (1991) who have pointed out the need for more research into organizational learning in order to understand, how people communicate in organizations (e.g. Orlikowski, 2007; Ashcraft *et al.*, 2009). In the three cases it is also seen how space is organized to generate learning, create new relations. This is in line with what Duffy, Laing and Grisp (1993) have found that the organization can have impact on the workplace. But in this research we have also seen how space can have impact on how people in an organization interact with each other and the surrounding organizations. In the three cases, the spaces have been closely related to organizational strategy. In two of the cases (the cultural center and the private company) the organizations have turned existing spaces to fit the organizations strategic intension and in the university case the space was design for the purpose of the new campus. The university was build to fit changes in the organization. The purpose of the new building was to help facilitate student centered learning, new approaches to teaching and transparency in the organization. But also to make it easier for staff and students to interact
and collaborate both cross faculties and with external partners such as private companies, local political systems in a multi-disciplinary environment. The opportunity to change the organization both in a new campus and in existing facilities found in the two other cases were also found by Myerson (1998: 32) who has learned from the studies at DEGW that change in location may act as a catalyst for change but, more often, change has to take place on an existing site and within the confidence of an existing building. The analysis have further shown that the new building made it possible for people to unfold a new identity, evolve the vision and slowly change their culture. The campus is an aesthetically pleasing building, but it is designed as a place for classic thinking and interaction performed as dialogue.

**Conclusion and perspectives**

The research in the three cases has shown how space can be used to enhance organizational strategy and demonstrates how closely the creation of space can be related to the development of that strategy.

The cases have shown how space can influence an organization’s learning to create change and new relations and how an organization can reinforce its identity, generate interaction and strengthen collaboration with internal and external partners (Melewar *et al.*, 2018). The cases have also shown how space can have impact on how people interact, whether the strategy of space is an organizational meeting place, a network organization or a cell organization.

The research is interesting for managers of strategic processes in organizations to help define the spatial challenges and the means to support and perform the changes needed – and, as the cases shows, design of spaces could be one of those means. The study has shown that the design and operationalization of spaces can influence organizational strategy, as space
influences relations between people. That organizations can use space to support their strategic intentions seems to have been overlooked in the literature.

Although the research is based on a limited sample of cases, they do however present some interesting insights as to how space can influence an organization’s strategic intentions, interaction, learning and the building of relationships within different sectors on various organizational levels in a public space, a semi-public space and a private space. The usefulness of the research needs further investigation based on a larger sample of cases within the three levels of spaces. It might perhaps also be interesting to test whether there are some typologies of strategies within the different levels of spaces.
References


Table 1 The organizational strategy of space in the three cases

<table>
<thead>
<tr>
<th>Case:</th>
<th>University campus</th>
<th>Culture and production center</th>
<th>Private manufacturing company</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategy:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>What - is the strategy?</strong></td>
<td><em>Space as an organizational meeting place</em></td>
<td><em>Space as a network organization</em></td>
<td><em>Space as a cell organization</em></td>
</tr>
<tr>
<td><strong>Why - this strategy?</strong></td>
<td><em>“A main station of knowledge” to create collaboration and learning across different faculties, researchers, students and external organizations.</em></td>
<td><em>“A transformation factory where dreams can become reality” to create collaboration, entrepreneurship and learning between creative people cross different arts in an “idea factory”</em></td>
<td>To create <em>’a long term trust relationship’</em> to be able to innovate, develop and learn together with customers that are specialists, experts and lead users from other industries.</td>
</tr>
<tr>
<td><strong>How - is the strategy implemented?</strong></td>
<td>Open space with visual interactive spaces and possibilities to look into all spaces such as offices, reading rooms, library and canteen to make the spaces transparent with a focus on interaction and collaboration in an interdisciplinary environment where students act as change agents in the meeting between teaching, research and external collaboration partners.</td>
<td>Semi open multiple creative environment designed as a series of workshops combined with various large meeting, event, exhibition and restaurant areas where people can occasionally meet. An event driven space strategy where people can jump “on” and jump “off” or they can work together for a period of time while they try out different professional opportunities.</td>
<td>Closed spaces to create separation between customers and knowledge sharing. Business areas are thereby not dependent on each other and it is therefore also possible for the company to enter new types of markets. By splitting their customers into different locations it is also possible to work with them to understand their needs and how to act, organize and sell in the new and sometimes emerging market</td>
</tr>
</tbody>
</table>
Figure 1  One of the six floor plans of the university campus

Figure 2  Diagram of how the spaces in the center are organized as various workshop spaces
Figure 3  Diagram of how the spaces are organized as cells in the manufacturing company