An insight into the workplace and the creativity of knowledge workers:

*An explorative study of how workspace interacts with creative behaviour*

*By Ronnie Maat*
“It is better to have enough ideas for some of them to be wrong, than to be always right by having no ideas at all.”

~ Edward de Bono

Master thesis

Title: An insight into the workplace and the creativity of knowledge workers: An explorative study of how workspace interacts with creative behaviour

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Preface

Just a bit more than twelve months ago I started this research project. A project that swallowed me into the soft side of real estate with the focus on workplace psychology. Something that is not often done within this master course. The process was messy at times and took regularly great effort to push forward. But I think that my fascination of why people do what they do has been a great diver to make progress. Another important driver was my view on how organisations and consultants too often focus on just a fraction of what the workplace is. It is not just a resource that can be optimised by looking at the hard side or costs. The workplace has the potential to increase important organisational goals, such as creativity through a complex interaction of employee and the workspace in which they operate. My aim of this thesis was to bring some illumination or insight into this complex system by focusing on the knowledge worker and how the physical environment has the potential to nurture creative thinking. I sincerely hope that you, whether you are an expert in the field or not, will get new insights into what the potential role could be of office space into enhancing creativity.
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This thesis has been split into four parts. The first part introduces creativity, the theoretical approach of this thesis and the methodology used to explore the issues. The second part concerns the first phase of the twofold research design deployed to answer the main research question. It entails the use of open interviews of multiple knowledge workers within creative and non-creative industries. It gives the first insight into what creativity is at the workplace and what the value of the physical environment is. The third part goes deeper into the relation between creative thinking and the factors of the workspace by using the emerged concept from the first phase. The choice was made to put a significant part of the literature study into the second phase. Although some of it was already reviewed earlier on, it gained more value once the first study was finished and compared. The choice reflects the process but also makes reading more fluent. Finally a synthesis is made of the found results of both studies, a recommendations are made and a reflection is given on the graduation process.
The added value of creative capital

The term “Creative capital” comes from Richard Florida, the author that introduced the creative class (2005). He argues that future economic growth does not come from technology or innovation but from the capacity to use the creative potential that resides within us all (Florida, 2005). Indeed recent research has shown that the implementation of creativity for organisations is a necessity due to the changing nature of work, demographics, technology advancement, cost pressure and flexibility in order to survive in a highly competitive market (Kerstin, 2011; Khanna & New, 2008, p. 796; Shalley, Zhou, & Oldham, 2004).

Products and services being not older than five years produced 75% revenues of the top 5 innovating companies in the United Kingdom (Howard, Culley, & Dekoninck, 2008). Furthermore, the implementation of creativity could reduce workforce support costs with 30% and potentially increases employees productivity (Khanna & New, 2008). Creativity is not only beneficial for the survival of companies but it is of significant importance or the wellbeing of employees. When they are able to express their creativity or communicate their ideas and feel supported they are happier to go to work (Florida, 2005). An environment is needed that supports the knowledge worker to be creative instead of one that only considers the ‘great creative minds’. For a long time creativity
was thought to be something only great minds possessed. But it has been recognised that innovation does not come from just one person, such as Steve Jobs, it comes from many individuals within the organisation (Teresa M Amabile, 1988; Florida, 2005; Woodman, Sawyer, & Griffin, 1993). Although Steve Jobs might be the face and an important driver for innovation within Apple, many others with different views had major contributions (Di Fiore, 2012). Without this dispersion in views there wouldn’t have been an App store. Creating an environment that leverages a sustained flow of novel and useful ideas is deemed to be a lot harder than to come with that one bright idea.

"making an enduring company was both harder and more important than making a great product".

~ Jobs (cited in (Di Fiore, 2012))

Creativity is not just for the gifted but comes from many who are feeling supported in doing so. But what is an environment that, as Florida calls it, “nurture, harnesses and mobilises” the “creative capital” of the people within it (Florida, 2005). More specifically, what could be the role of the physical work environment?

Real estate has the potential to add value for shareholders by enhancing innovation (Lindholm & Leväinen, 2006). Roulac argues that it might be the most-ignored and powerful tool to speed up innovation projects and enhance the learning process of organisations (2001, p. 140). The potential of the environment has also been pointed out by Csikszentmihalyi mentions that changes within the environment are easier made than to learn people to be more creative (1996). The reported added values of corporate real estate show that innovation is the least mentioned by corporate real estate managers, while cost reduction and productivity are at the top (Lindholm & Leväinen, 2006). The emphasis on cost reduction and productivity can also be found with general managers. A possible explanation might be the paradoxical challenge they are facing: at the one hand continuous innovation is needed with in the workforce and at the other hand there is a need for stability through efficient and productive outcomes (Chang & Birkett, 2004).
Amabile also recognized this challenge during her interviews with managers:

“Creativity gets killed much more often than it gets supported. For the most part, this isn’t because managers have a vendetta against creativity. On the contrary, most believe in the value of new and useful ideas. However, creativity is undermined unintentionally every day in work environments that were established for entirely good reasons to maximize business imperatives such as coordination, productivity, and control.”


Besides those that ignore the potential value of the workplace to enhance creativity are those that seem to “cut and paste” designs from successful companies without considering their own culture, values etc. Current designs of office environments are often based on personal experience, trends or simplified use of academic literature without complex interaction between the physical environment and employee behaviour, leading to misapplications (Davenport, Thomas, & Cantrell, 2012; Heerwagen, Kampschroer, Powell, & Loftness, 2004). There is no added value when it is not considered within the more general strategic field of the organisation. But how does one create a workplace strategy to support creativity?

![Input-output model, putting the physical environment in the strategic and operational field of organisations. The emphasis of the thesis is to find the relation between the physical environment and the process of use (own ill. Based on model (Moultrie et al., 2007, p. 56)
Moultie et al’s model (fig. 2) shows how the physical environment can be put in the strategic field of the organisation (2007). The strategic intent entails how the objectives of creativity can be achieved and the physical environment can then be considered as what needs to be created in order to achieve the objective. The question then is where to start? At the top, i.e. strategy or at the bottom, i.e. the process of use?

The effectiveness of the physical environment cannot be assessed without considering the usage of the space (Moultrie et al., 2007). Haynes agrees, by calling for a change in the paradigm of building performance (2007). He argues that the performance of the workplace is too often based on physical / technical assessments from a view that only considers the actual users and their needs. An approach that focuses on the ‘behavioural environment’ and the needs of the users could be based on the ‘occupiers’ perspective and use psychological literature to further explore a new type of assessment (Haynes, 2007).

Creativity is not something that concerns a selective group of people but should be seen as an important need for the well-being of the employee.

~ Florida (2005)

To see why the need, characteristics and behaviour of the employee matters for organisational creativity a view needs to be adopted that sees it as a complex system, where organism and environment interacts.
The interactionist view on creativity

"Both situation and organism and the interaction that unfolds over time must be explained to fully understand the organism-in-it’s-environment… From an interactionist position there is always something more to understanding behavior than just describing the observed behavior per se. This "something more" has to do with the essence of the organism and its behavioral potentiality."

~ Woodman & Schoenfeldt (1990)

Some critics argue that most research focus too much on a specific element of the creative process, leaving out vital elements and leading to notifications of an oversimplified reality (2004; Lubart, 2001). Anderson et al’s review showed that 73% percent of the conducted researches on creativity focus on the individual aspects of creativity and 87% focus on a single entity (2004, p. 157). Woodman et al. used the interactionist approach to come up with a ‘theory of organisational creativity’ which incorporated process, product, person and place (1993).

![Figure 3 Theoretical model adapted from the interactionist model of Woodman et al. It shows how the different levels creative processes lead to organisational creativity, influenced by the physical context created by the organisation (Own Ill. Based on (Woodman et al., 1993))](Image)

The creative output of the organisation is a function of a complex system that includes individual, team and organisational characteristics, behaviours and contextual influences.
A simplified version of the original model\(^1\) (fig. 3) shows that for an organisation to achieve creative products or ideas it requires to look at three levels: individual, team and organisation. Each level has its own characteristics which its own process or behaviour and interacting with the context in which it is operating. The output of one level serves as an input to the other. At the individual level the characteristic are for example personality, cognitive style and intrinsic motivation. The group characteristics consists of norms, size and the degree of cohesiveness, while the organisation elements are the culture, reward systems and resource constraints (Woodman et al., 1993). They briefly mention the potential role of the physical environment as a contextual influence but give no direction for further research. This is not strange as the goal of their model was to integrate the scientific views of personality, psychology and social psychology on creativity. Research on the connection between the physical environment and creativity is scarce (Kristensen, 2004), relatively new and does not take the interactive approach into account. To understand the connection between the physical environment and creative behaviour it requires an understanding of both social and cognitive processes (Heerwagen et al., 2004). In fact the individual level is an psychosocial process influencing our behaviour (Bitner, 1992; Gifford, 2014). The creative process on the team level can be described as a social process (Kerstin, 2011; Perry-Smith & Shalley, 2003) within the physical environment, where individuals participate in a social network (Heerwagen et al., 2004).

Some reported the potential organisational value (Moultrie et al., 2007; Oksanen & Ståhle, 2013) while others addressed the spatial influences of creative behaviour (Haner, 2005; Kerstin, 2011). Haner argues that divergent and convergent thinking requires different kinds of spaces. Kerstin introduces slightly different criteria: interaction and the balance between communal and private spaces. Only few looked at the effect on individual creative behaviour and actually found empirical evidence for a positive relation between the physical environment and the (Dul, Ceylan, & Jaspers, 2011; McCoy & Evans, 2002). Dul et al. created a model which connected three environmental variables to the perceived creative output of employees: person, culture and physical environment (2011). They found a positive relation between the perceived support of the physical environment and the perceived creative performance of the individual. McCoy

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\(^1\) The model has been adjusted to show how the physical environment relates to the overall creative process within an organization.
and Evans categorized physical elements with the organizational indicators, based on Amabile’s componential model of creativity (McCoy & Evans, 2002). Both researches, although viable, they oversimplify the actual situation by only looking at the physical elements and not taking the behavioural element as Haynes mentioned into account (2007).

The interactive approach gives enough possibilities to look at each ‘level of creativity’ and see how it interacts with the physical environment. But since time is scarce, the emphasis is on the interaction between the individual and the physical environment. And although many claim that ‘real creativity’ comes from social interaction, it starts at the bottom. Individual creativity is the ‘raw material’ for organisational creativity (Teresa M Amabile, 1988).

This raises the question: How can the physical work environment be used to enhance individual creativity? Or better said what is the interaction between the physical environment and creative behaviour? The following question is the main research question for this thesis:

How does the workspace interact with the creative behaviour of knowledge workers?
The interactive model (fig.3) shows how organisational creativity is obtained through the different levels, the context and how they interact with one another. It requires an understanding of what creativity is and how creative behaviour could be described. Since the model is best considered as a theoretical framework, it does not explain in full detail the complex relations between certain components of the model. Since a possible theoretical explanation concerning the interaction of the perceiver with the physical environment. The subsequent questions guide the further process in creating a theoretical framework.

**What is creativity and what is the process of creative behaviour?**

**What is the interaction between the physical environment and its users?**

The following part starts with the theories of creativity. First the comparison between the creative process and the innovation process is made, and why this thesis focuses on the first one. Thereafter two different views on the creative process are explained to see how ideas come to existence. The second part introduces the field of environmental psychology. It shows that creative behaviour is part of a complex system of personal, cultural and physical components which are mediated through the perceivers cognitive and affective processes and its wellbeing.
Before creativity is further explained, its connection to innovation needs to be explained. According to Boeddrich “a constant flow of ideas is required to be innovative (2004). Creativity is about the generation of novel ideas while innovation is the implementation of ideas (Teresa M Amabile, 1988; McAdam & McClelland, 2002; Woodman et al., 1993).

The scope of this thesis entails the internal environment, i.e. the workplace of an organisation with the focus on the physical component. Innovation takes place within a much wider context: regional, national or even global. It’s a strategy in order to adapt to changing market conditions (Roffe, 1999). The idea needs to be put in the context (normally) outside the organisation in order to implement it. As such I consider creative behaviour to take place within the organisation and innovative behaviour to be more externally focused. Some organisations actually use a more integrative approach of creation and implementation by involving the end-user in the creation process\(^2\). An interesting development but outside of the this thesis’ scope.

\(^2\) Two out of the eight interviewees mentioned explicitly the role of the user of the end product within their creative process. Be it an actual domestic product or an marketing idea.
As mentioned before the creative performance should not only be based on the physical elements but also on the behavioural components. To assess the behavioural component an understanding of the creative process is needed.

**The creative process**

There are two different approaches on what the creative process is or better the nature of it. There is the so called ‘inspirationalism’ - and the ‘structuralism’ view (Shneiderman, 2000). The most common used model to describes the creative process is that of Wallas (1926):

1. Preparation
2. Incubation
3. Illumination
4. Verification

At the preparation phase a problem is analysed and defined. A problem could be open or closed (Csikszentmihalyi, 2014; Unsworth, 2001). An open problem could also be considered as problem finding. The latter requires more effort, time and has a bigger impact on society (Csikszentmihalyi, 2014). When someone is presented with a problem or possibility he starts with gathering knowledge. A solution for a problem could already be found in this phase but it shouldn’t be considered as creative as nothing new was thought of, hence the solution or idea is based on prior knowledge. During this phase conscious analytical skills are involved. Then a period of incubation follows. During this phase the unconsciousness takes over and explores multiple ideas and rejects unsuitable ones. Illumination comes when the unconscious emerges to the conscious mind, when an idea ‘comes to the mind’. Finally a stage of verification follows where the idea is evaluated and refined. The inspirationalists emphasize lateral thinking, divergence, free association and ‘breaking away from the existing mind-set’ (Shneiderman, 2000).
Later on, in the 20th century, a shift occurred in the view on creativity. It moves from inspiration to a more orderly practical approach of problem solving. Amabile describes the road to creativity as a four staged process (1988):

- problem presentation
- preparation
- response generation
- response validation

Problem presentation can be either presented internally or externally. When an employee is presented with a problem for example by his manager it could be seen as a problem that is not internally owned. Rather when the individual initiates the process, hence owns the problem, it could be seen as an internal presentation. Once presented, the individual builds up or reuses knowledge relevant to the problem at hand. It is possible that the level of expertise or knowledge is already sufficient enough to see multiple roads to possibilities, reducing the duration of the preparation phase. But it is also possible that it becomes a ‘learning process’, which takes more time and effort. Once prepared the actual generation of ideas start. But in contrast with the inspirationalist’s view, the mind searches and finally selects the most suitable possibility, based on the previous ‘pathways’. Finally, the appropriateness is determined, based on the domain knowledge. This is especially of important for the usefulness of the idea.

According to Howard et al. the difference between the two can be explained by the view on whether generation is a subconscious or a conscious activity (2008, p. 166). One sees generation as something that ‘emerges’ and the other as a reconfiguration of old ideas through the use of memory. Although the emergence of ideas has been generally rejected, some still see the importance of the subconscious in the generation of ideas (Baird et al., 2012; George, 2007; Ritter & Dijksterhuis, 2014).

There many more considerations to be taken into account. These two models, just like most other models on creativity, are based on four stages. Some critics argue that many scientific descriptions of creativity is oversimplified and the four staged model should be revised or even replaced (Anderson et al., 2004; Lubart, 2001; Unsworth, 2001). Lubart rejects the idea that the creativity is a linear-stage-based process and instead the sub processes should be taken into account (2001). The driver, i.e. the why of creativity and
the nature of the ‘problem’ would require different tasks\(^3\) and sequentially lead to different process and outcomes (Unsworth, 2001). And some processes might take place simultaneously (Haner, 2005). Although creativity requires a divergent approach (McAdam & McClelland, 2002), there is a role for convergent thinking as well. Preparation and verification involves mainly regular reasoning processes (Hélie & Sun, 2010) and convergent thinking, while the generation phase involves irregular reasoning and a divergent way of thinking. Convergent thinking is required to come to creative ideas as some form of selection during phases is required (Lubart, 2001). According to Basadur et al. divergent and convergent thinking exists within all phases and different work fields might require different ratios between the two (2000). Most models emphasise the generation phase as it is considered to be the most related to creativity. But during the whole process some sort of evaluation is required as decisions needs to be made along the way. The different stages of the creative process continue till (a) early on a problem may be rejected or deemed unimportant; (b) after some work the problem might be rejected as it seems unsolvable; or (c) work might be postponed which allows for incubation (Lubart, 2001, p. 300). Finally it can be said that innovation is not just a technical- but also a social process (Volberda & Bosma, 2011). Leveraging connection within and outside the organisation leads to new knowledge. Indicating that innovation does not only occur within the boundaries of R&D (labs) but requires a broader view. Employees at all the levels of the organisation can be seen as potential ‘experts’ of the innovation process (Dul & Neumann, 2009).

All these considerations and different views makes it difficult to come to a comprehensive model of the creative process. The process depends on the situation, context, goal or type of problem (Unsworth, 2001). It is not something that could be prescribed, rather it should be seen as an umbrella under which creative tasks or activities take place. A software firm might require more analysis, while a marketing bureau requires more generation of ideas. Instead it requires an analysis of the business process and how the creative process relates to this. So how should this umbrella look like then?

\(^3\)The word ‘task’ in this thesis holds diverse meanings. It is not only linked to work or productivity. It is mostly used as ‘jobs of the mind’.
Howard et al. compared twenty theoretical models of the creative process (2008). They concluded that most models have three stages: analysis, generation and evaluation. Based on their conclusions and theories described above the following phases are used:

- Problem or Opportunity presentation
- Preparation
- Generation & Incubation
- Valuation

To illustrate, an employee works for a company that creates domestic products. An idea or opportunity arises from one employee while he was watching a movie, walking in the city or attending a conference. He starts analysing the possibilities at work and comes to the conclusion that it might be interesting for the organisation. The employee looks for support from team members and an evaluation stage follows. There is enough support and he starts generating new ideas. Meanwhile he gets new information from a manager leading to stage of analysis again. After a few more stages there might be an actual idea ready for implication or it might be rejected. This example gives a possible scenario and shows that there is no creative procedure. It is a messy process. It also implies that successful creativity corresponds with different needs and subsequently to different requirements of the physical work environment.
Small c creativity

So far creativity has been discussed as a process. When employees exhibit creativity at work, they produce novel, potentially useful ideas about organizational products, practices, services or procedures (Shalley et al., 2004). Most researchers on creativity use the description of novel and useful idea (Teresa M Amabile, 1988; Woodman et al., 1993; Zhou & Shalley, 2003) with a continuous spectrum. A commonly used distinction is that of big c creativity and small-c creativity (Kaufman & Beghetto, 2009). The former is mostly perceived to related to big break through innovations like the discovery of the light bulb of Edison, while the latter is connected to, for example the combination of two different cooking recipes into a new one. Kaufman & Beghetto include two more definitions: mini c – and pro c creativity coming to a total of four types (2009). An achievement in either of these four categories can be considered as novel and useful. It depends on the point of view and its impact.

<table>
<thead>
<tr>
<th>Type of creativity</th>
<th>Scale of impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini</td>
<td>Personal</td>
</tr>
<tr>
<td>Small</td>
<td>Organisation</td>
</tr>
<tr>
<td>Pro</td>
<td>Domain</td>
</tr>
<tr>
<td>Big</td>
<td>Society</td>
</tr>
</tbody>
</table>

Table 1 The four types of creativity and their relative impact

Small c creativity concerns the production of new ideas within a workplace (Kaufman & Beghetto, 2009). Although many organisations most likely wish to come with major breakthroughs, the “big c” is often only for the very few, e.g.

Another viable contribution in order to further specify creativity is that of Unsworth (2001) She argues that the reason to start a creative process and the nature of the problem would lead to different types of creativity, it effects the process and the predictors. For example someone who is proactive would need to put more effort into different and more activities and would possibly require a higher amount of motivation. Conducted interviews showed that people who perceived themselves to be creative viewed creativity to be “99% perspiration and 1% inspiration” (Csikszentmihalyi, 2014, p. 75). An environment that supports knowledge workers to take more risk, e.g. try to move
away from the normal ways of doing things, could then be seen as an organisational goal to enhance creativity. The hard work that precedes novel and useful ideas might be influenced by workspace that ‘nurture’ creative thinking. The creative process could be seen as a ‘journey’ which is complex, partly iterative and partly simultaneous (Haner, 2005). Although we are capable of small c creativity, does it actually have a place in which most knowledge workers operate, i.e. office space? Do knowledge workers make a distinction between creativity and non-creative work?
**Interaction from an environmental psychology’s point-of-view**

A creative environment “exerts a positive influence on human beings engaged in creative work aiming to produce new knowledge …” (Hemlin, Allwood, & Martin, 2008, p. 197). This view aligns with Vischer’s notion of ‘environmental comfort’ in which knowledge workers need environmental support for their tasks (2008b).

The context or environment in which we work, eat, sleep, play etc. is complicated due to many interactions taking place between ourselves and the components of our environment. Or as Gifford puts it: We shape our environment and it shapes us (2014). This corresponds with the, earlier mentioned, interactional perspective (Woodman et al., 1993). It says that the individual characteristics and behaviour contributes to the context which in turn influences our behaviour.

Each individual acts differently within its environment. This can be explained by three distinctive influences (Gifford, 2002):

- the personal-
- the cultural-
- and physical influences
Examples of personal characteristics are age, gender, personality, experience, knowledge, etc. Cultural elements are for example: structure, norms, values, leadership, rewards, control etc. And some examples for the physical environment are size, configuration, indoor climate, lighting etc. This implies that organisations can use strategies regarding the attraction of new - and the training of current personnel; Employ policies to support creativity; and design a workplace which further enhances the creative behaviour.

The further processing of the perceived environment into behaviour is complex and is indirect. The three elements are mediated through our psychological processes of cognition, affect and motivation (Teresa M Amabile, 1988; Teresa M Amabile, Conti, Coon, Lazenby, & Herron, 1996; Bitner, 1992; Vilnai-Yavetz, Rafaeli, & Yaacov, 2005). The perceiver is often connected to the environment by a clear goal or purpose (Gifford, 2002, 2014). Furthermore the goal influences the creative process (Unsworth, 2001) and is positively related to the creative output (Hirst, Van Knippenberg, & Zhou, 2009).

To illustrate, how we interact with our environment would be that of a library. Which activities do we associate with a library? Studying, browsing, calculating, drawing, reading, typing, writing and more. These activities require a certain amount of privacy and a low amount of distraction. Let us assume that certain areas of the library facilitate a high level privacy and a low level of distraction. It could then be reasoned that one would go the an area with more privacy and a higher level of concentration if the goal is to study. But reality shows that some prefer a place where there is a view while others prefer a wall. Some might want complete silence while other prefer to put on music. It indicates that each individual has a different ‘style’ of studying. Some might need some level of distraction to study efficiently, some may not. This in turn can lead to certain norms or believes that certain areas are for those that want no distraction at all and certain areas where it is ‘allowed’. And again this effect how we act. Who we are, the goals we have and the things we do ‘interact’ with our physical surroundings.
This interactive system, with the personal, physical components etc. basically falls under the scope of environmental psychology as a domain (Gifford, 2014). Each and every link between the components might lead to a new and possible interesting study. A theoretical framework based on this scope would therefore be too abstract. An insight into the daily perspective of the knowledge worker on its own creativity and which circumstances affect it, will help shape a theoretical framework.
Methodology

There are multiple ways to handle case studies and the way to gather knowledge (Yazan, 2015). The complexity of the interaction between individual, its creativity and the physical surrounding assumes that a qualitative approach is necessary. Finding out how the physical environment influences the perceiver depends on ‘reality’ that is subjective in nature. It is ‘created’ by an interaction between the individual and its – social - world (Yazan, 2015). According to Stake and Merriam research findings cannot and shouldn’t be ‘value free’ since both the observe and the observant are viewing the same concept in a different matter (Yazan, 2015). The phenomena that is under investigation is not independent (Bryman, 2015). This view is in contrast with Yin’s approach on what qualitative research should be. He uses a positivistic approach in which the goal of the research is to establish facts and uses objectivity, validity and generalizability in order to achieve that. This research aims to get a better understanding of the created reality of knowledge workers within their work environment and therefore uses the constructivist paradigm to further explain the research strategy.

This study uses a multiple-case study approach to gather and analyse data. According to Bryman this approach gives a greater opportunity - compared to a single case study - for the researcher as he or she is then in the position to examine the operation of generative causal mechanisms, i.e. constructed realities, in contrasting and similar contexts (2015, p. 74). It helps to enhance the researchers ‘sensitivity’ to the factors of these mechanisms (Bryman, 2015).

The gathering and analysing of data takes place in concept of grounded theory. Heuristic categories play the role of a theoretical axis (Kelle, 2007). The goal is to develop empirically grounded categories and propositions about relations between these categories. Category building of that kind starts by using heuristic concepts and proceeds to the construction of categories and propositions with growing empirical content (Kelle, 2007).

This process of ‘gathering heuristic concepts and constructing of categories’ is reflected in the research design. It can be divided into two different phases in which the emphasise shifted from ‘sensitising’ to ‘testing’. The first phase has been more or less a continuous process in which concepts were ‘sensitised’, as is common with the grounded
theory approach (Kelle, 2007). In this phase open interviews were conducted to get a better grasp on what knowledge workers perceive to be creative, what the process is and how it relates to their physical surroundings. In the second phase the focus shifted to theory testing, in which the emerged concepts of the first phase were tested to ‘hold up’. To resemble the research process and for readability purposes the phases and their designs have also been split into two in this report. First the design and results of phase one is discussed. These are then used to reflect on theory and come up with a theoretical framework that can be further tested in phase two.
Research model, showing the research process with its different phases:

1. Literature review
2. Problem statement
3. Main research question
4. Sub research questions

Phase I:
- Open interviews with 'creatives'
- Open interviews with 'non-creatives'
- Results

Phase II:
- Survey Case 1
- Survey Case 2
- Survey Case 3
- Survey Case 4
- Results

Conclusions
Recommendations
Phase 1: An insight into creative behaviour
Research design study I: “An insight into creative behaviour”

Qualitative interviews give the researcher the opportunity to glean in which research participants view their social world (Bryman, 2015). Unstructured interviews has been used to give participants the freedom to explore the concept in their ‘own world’. This type of interviewing is more suitable for this research than semi-structured interview. The latter requires a more a ‘fairly clear focus’ while the former also give a more ‘genuine access’ to the ‘world’ of the participant (Bryman, 2015).

<table>
<thead>
<tr>
<th>Type of Company</th>
<th>Gender</th>
<th>Role</th>
<th>Table 2 Characteristics Interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Industrial design</td>
<td>Male</td>
<td>Senior Director Design Innovation</td>
</tr>
<tr>
<td>2</td>
<td>Marketing</td>
<td>Male</td>
<td>Art Director</td>
</tr>
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<td>3</td>
<td></td>
<td>Male</td>
<td>Creative Director</td>
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<td>4</td>
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<td>Female</td>
<td>General Manager</td>
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<td>5</td>
<td>Retail</td>
<td>Male</td>
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<td>6</td>
<td></td>
<td>Female</td>
<td>Contract Manager</td>
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<tr>
<td>7</td>
<td>Service</td>
<td>Male</td>
<td>Facility Manager</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Male</td>
<td>Marketing Specialist</td>
</tr>
</tbody>
</table>

Sampling

Eight interviews were conducted of which four were from two organisations. This sampling has been done in the notion of purposive sampling (Bryman, 2015). According to Bryman this type of sampling is done with reference the goals of the research, so that the samples are selected in terms of criteria that will allow the research questions to be answered Bryman (2015). The selection took – a priori - place at two levels.

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4 Interviewees 5 & 6 were employees of the same organisation and interviewees 7 & 8 were from the same organisation (see table 1)
The first selection took place on the level of the organisation. Some organisations are perceived to be more creative than others, especially those that are part of the ‘creative industry’. The size of the departments, in which the interviewees were active, ranged from two to thirty employees. The size of the companies ranged from two to even thousands of employees. Although the organisations differ in their goals, cultural backgrounds, scope etc. they do share similarities in their ‘servicescape’ (Bitner, 1992). They all have a workspace with mostly employees and little to no customers, i.e. remote service, and the physical environment is fairly complex\(^5\) (Bitner, 1992). Four participants are active within this creative industry, while the other four are employed in the non-creative industry such as retail and service industry. The second level, the sampling of participants was based on two important topics: (1) the likeliness whether the knowledge worker is creative at work and (2) whether it would be useful for the organisation.

**Gathering data**

The gathering of data has been done by conducting eight open interviews. The average durations of the interviews was about 24 minutes and took place within the work environment of the participants. Although open interviews do not use ‘scripts’, which is the common practice in semi-structured interviews, some sort of guidance in the form of prompts are beneficial (Bryman, 2015). The prompts that were used during the interviews can be found in the appendices. They reflect the topics found in the literature review so far with the main goal to find what creative behaviour at the work floor might be.

\(^5\) Bitner argues that organisations as hospitals have the most complex physical environment as it is a complex system with a plurality of functions, with both employees and customers.
**Analysing data**

The analysis of data took place with the foundation of grounded theory, which uses sensitising as method of analysis (Kelle, 2007). It is “the process of making sense out of the data. And making sense out of data involves consolidating, reducing, and interpreting what people have said and what the researcher has seen and read – it is the process of making meaning” (Merriam cited in (Yazan, 2015, p. 145))

‘Sensitising concepts’ can be used as ‘heuristic devices’. These concepts can be used as a theoretical axis to which empirically content-full information from the relevant domain is added (Kelle, 2007). Creativity as a process is the heuristic concept and is the start on which further categories are constructed during the growing empirical content. Thus the researcher can apply abstract theoretical categories with a general scope (which refer to various kinds of phenomena) but with limited empirical content (like identity or social role) as heuristic devices to develop empirically grounded categories with a limited scope and high empirical content (Kelle, 2007). The process of sensitising, i.e. coding can be found in the appendices.
Results

Three separate but linked concepts emerged while analysing the data of the eight interviews. All interviewees explained the importance of creativity and its necessity at the job. It could be as small as representing viable information in a different way for new insights or as big as the creation of a new product or even a subculture. The second concept that emerged was that of opportunities that knowledge workers seek to help their creative thinking. And finally a concept emerged that of creative feeling or place that indirectly influences creative thinking.

The Need for Creativity

I think everyone is capable of being creative. But people who dare to share it, who dare to display it or scream it out are those we see as artisans. (I3)

This interviewee gave a description that seems to correspond with the general view of creativity. If we would use this view, creativity would be nothing more than marketing, a way to bring the idea to a wide public. Instead the interviews showed that all interviewees had to use some level of creativity within their daily jobs. They needed creativity in order to help achieve their daily goals or objectives. Coming up with new ideas was perceived to be necessary to make their own lives easier. Either by finding new ways to increase productivity or by creating new products for their own organisation or clients. Some required it to make processes more efficient or ‘smarter’ while others come up with unique products or services for clients.

How can we find smarter ways to handle this. So I see creativity to be connected to process. It is more about how we do things then what we do. (I8)

Or:

You cannot simply take the same path. I cannot say “I write this, send a message to the press, we do this and we do that for each client”. (I4)
All most all interviewees made a distinction between creative and non-creative work. Besides one art director all interviewees used creativity between the usual work. Creativity is even described as something that requires one to ‘step aside’ from the regular activities. There seems to be individual differences on the relative weight put on the novelty or usefulness of creativity. One interviewee only sees the novelty part as creative.

Creativity is, except for the creating part, that you also do things differently from what people expect….That could be about a toothbrush. But if you sit at the office all day you won’t have a different view. At the street when something happens or when you enter a shop and suddenly see something odd (that can be a source of inspiration). If you use these views on your problem you can come to great solutions. (I3)

While another clearly emphasises the usefulness.

Ideation is not the hard part. From idea to implementation that is real creativity…Creative agents think that ideation is 80%, while I know it is 5% of the creative process. An idea at its own is nothing. (I8)

The interviewee who emphasised the useful aspect was more focused on the activities to refine the current idea or come up with a plan to execute it. For him there was no need to be inspired by people or events around him. While three others, who clearly emphasised the novelty aspect, required inspiration from others or events around them. It possible reflects the earlier mentioned goals or intentions people have when they need to be creative within a certain setting (Gifford, 2014; Unsworth, 2001). Different goals means different needs regarding the environment.

Knowledge workers are aware of their creativity. They use it at the workplace and it is different from their routine work. They require places which suits their needs in order to feel creative.
The Need for Roaming

Roaming is a mobile phone service that you connect to when you cannot connect to the one that you normally use (Cambridge University, 2016). This is an analogy for the behaviour respondents reported in the interviews, namely looking for opportunities that support the creative process instead of the regular activities. They connect with different spaces with different features in order to be able to be creative.

When I look back at the moments I have achieved a lot, it was not during meetings or days sitting behind my desk. It makes me think that of the last 80% (of the creative process) I need to do is rarely when I am within the workplace pattern. There are people that function very well (within this pattern) but they do not have a creative role to fulfil, they do more executive work. They have to cope with less uncertainties, many variables, complex analysis and have less choices to make. And they feel more comfortable sitting at their desk. I can’t do it. I wish I could. (I8)

A possible explanation for this behaviour is the need for autonomy or freedom. Freedom has been identified to be of significant importance to enhance creativity (Teresa M Amabile et al., 1996). It gives the individual the freedom to tackle the task at hand as he sees fit. Most research on organisational creativity looks at the cultural component of freedom and indeed some interviewees needed it in order to be creative:

Getting the opportunity to have an influence on things, to implement your own ideas and have the time to think about things in general. (I5)

But the sense of freedom extended to the physical environment as well. Interviewees reported both explicitly as implicitly physical elements related to the sense of freedom. The physical space gives opportunities for users to approach their task as they see fit. They want to move around and be able to see new things and do things that are not
related to routine work. They actively gather ‘knowledge’, chose places to ‘let it sink in’ and seek peers to share their insights.

**Opportunity to connect**

All interviewees showed a need to connect with other ideas, individuals and even the space. Especially in the preparation phase it was important to be connected important sources of knowledge. Especially digital services such as social media and other search tools. The knowledge workers active in the marketing business used social media, workshops or visits to connect to the (potential) target groups and their cultural values. The social network- perspective explains this need to connect with ‘weak ties’. A network consists of nodes and ties. In a social network a node could be an organisation, group or individual and the tie is the connection/interaction between different nodes. Creativity is related to degree of interaction between the nodes: a weak- or strong tie. People tend to share information in groups with strong within-group ties but the information is redundant (Wineman, Kabo, & Davis, 2009). Ideas coming from such a network would score low on novelty and thus not creative. According to Wineman et al. new ideas come from the weak ties connecting separate groups (2009, p. 430). The means to connect with people from outside of the organisation seems to depend on the goal of the creative process. Is it to create a new product or to make processes more efficient? Based on these interviews it seems that product-related creativity seems to benefit more from physical environments that facilitate face-to-face-interaction with ‘weak nodes’ than those based on internal processes.

We also have project spaces. Those are space were we let people work on a project for a longer period in which they can leave content on the wall. (I1)

Another interesting concept that emerged was the possibility to use the space to physically ‘place’ thoughts or ideas It indicates two different values. The easiness to reconnect when the individual leaves. When another task requires attention the actual placement of the idea helps to go on with the creative task. Another value is the concept of ‘extended cognition’, in which the physical environment is actively used to reduce the
strain on cognitive load (H.-H. Choi, Van Merriënboer, & Paas, 2014). The brain extends its cognitive functioning to the external by using calculators, walls, whiteboards or other tools that are relevant for the creative task.

Opportunity to experience different things

One of the important opportunities was to be able to pause and to move both mentally and physically away from the current place in which the activity took place. Creativity can put a significant load on cognitive functioning. Whether you view the creative process from an inspirationalistic - or from a structuralistic point of view, preparation requires mental effort. In the preparation or (active) generation phase we use our experience or the knowledge at hand. During this phase the mind is seeking for frames or fragments of knowledge and tries to combine them. These fragments can be at a ‘distant place’ and take a lot of effort to retrieve (Santanen, Briggs, & De Vreede, 2000). It puts a high level of strain on the individual’s cognition, resulting in difficulties in the most simple cognitive tasks (simple typing or even searching an object between a messy desk) (Santanen et al., 2000). The inspirationalist’s view tells us that this is the point where incubation starts. The unconsciousness takes over to look for the possible solution. According to some researchers the unconscious mind is a lot better ‘equipped’ to make difficult- decisions and cognitive tasks, such as creative thinking (J. N. Choi, 2004a; Dijksterhuis, 2004). One interviewee in particular seemed to be aware of this process and seemed to adjust his behaviour accordingly.

I need a different environment. I don’t want to sit behind my desk all the time. Now and then I need to let it go and move to somewhere else and continue there…If I need to concentrate and I need to do other work then I will pick one of the sofas. We have a couple of Chestfield sofas where I just lay back and start to type. (I7)

Multiple interviewees reported to put the current creative task at hold to do something completely different and return later to start fresh. A couple of examples given by
interviewees: taking a small walk inside the building; taking a walk outside; playing ping-pong; meditation; experiencing the outside view through a window.

You will always come up with a new idea. Exercising or meditating works for me. You stop your thoughts with these activities, only the physical activity. There is no time to think about something else. Even if it is for one or two hours or even when you go to sleep. (I2)

Recent research has shown that physical activity has a positive effect on cognitive performance. Acute exercise have shown to improve cognitive flexibility (Ratey & Loehr, 2011), which is commonly seen to be an important part of creative thinking. Enganging in undemanding tasks

Opportunity to experience flow
According to Csikszentmihaly, people experience their environment more positively when a place gives high opportunities for actions and when they have the ability to act. Indeed multiple interviewees indicated that a certain degree of stimuli was needed for them to feel comfortable in the creative process. These were both visual and auditory stimuli.

There is enough going on without something requiring your attention. You really get into the zone….The best ideas occur to me when I’m in an airplane or at the Starbucks or wherever there is enough going on but noting is being demanded of you. (I7)

And:

When I need to be creative I go to the design department. There, the radio is on, people talk to you and there a lot of things on the wall. (I6)

One interviewee implicitly mentioned the distance between the stimuli and himself.
While thinking I like to be stimulated but not from the direct environment. When I’m looking outside, through the window, I can get lost in the view and I like that a lot. (I3)

The requirements of the surroundings is different per individual. It is not new that some work better with a moderate level of ‘distraction’ while others simple cannot cope with the very same level. There are a couple of possible explanations for this. One can be found in the conditions to experience flow. There needs to be a fit between abilities and the challenge. In this case the cognitive capabilities and the cognitive task. Let’s say someone has a moderate level of cognitive capabilities, i.e. cognitive load then a task that is moderate would be suitable. But when someone has a high level of cognitive load and he needs to tackle a moderate level of task then he would experience boredom (Ratey & Loehr, 2011). In this case external factors, i.e. physical stimuli, that require additional attention and thus increase cognitive load which in turn leads to a match between abilities and the challenge. The challenge could thus be task related and environmental related.

**Employees seek opportunities to support different aspects of the creative process within the physical environment.**
The Need for a Creative Place

So far the interviews has shown the potential role of the physical environment to help knowledge workers ‘control’ the cognitive capacity during the creative process. The concept ‘roaming’ could be seen as the behavioural component of the workplace. It was a lot harder for the interviewees to ‘picture’ the physical components compared to the behavioural components. A study conducted by Ritterfield and Cupchik showed that individuals find it easier to express affective judgements over cognitive judgements of the interior (1996).

I was in New York for my internship. Every day I had to wear a suit. I have also worker there. But I found it to be horrible. The space was also boring, really corporate. (I2)

And:

I think you can stimulate creativity with the workplace. I worked at a big corporate company before: grey carpet, those white ceiling tiles, TL-light, view on an industrial plot. There was no energy. You couldn’t seek stimuli. (I3)

And:

I like the picture on the wall. It is tangible. It is how we collaborate. I can relate to that. Such picture gives me a lot of inspiration. (I5)
Some did connect creativity to the physical surroundings but it seems to be more associative judgements than objective views of the reality. A view of what creative environment is or what it ‘feels’ like instead of pointing out physical elements that helps the creative process. One interviewee called creativity something that cannot be called upon but is something that ‘emerges’ when one feels good. Although the actual creative process might be cognitive, it is influenced by the affective process (Teresa M. Amabile, Barsade, Mueller, & Staw, 2005; Zhou & Shalley, 2003). The interaction between environment and creative behaviour is not only based on being supportive or beneficial for creative thinking, it can also reflect creativity in itself.

*The physical environment seems to be able to reflect creativity in itself and influences creativity through affective processes*
Discussion

The goal was to see if and how the creative process takes place at the workplace. The interviews showed that creativity was important at work and was perceived to be distinct from non-creative work. Their goals differentiated, be it through new concepts, products or though making business processes more efficient.

It also indicated that indeed divergent and convergent activities take place, with different socially and individual requirements as argued by Haner (2005). Especially the usefulness – often related to divergent activities- dependents on the social context (Ratey & Loehr, 2011). Whether and how an opportunity a problem presents itself depends on the social network in which the knowledge worker resides, as some of the interviewees indicated. Having a better understanding of where and how opportunities arise within this network could be possible valuable to base workplace strategies on. Especially the location. One interviewee for example often walked around in the district to stay connected with important sub cultures. Another interviewee actively involved end users within the whole design process by inviting them in specially designed project rooms.

The preparation phase seemed to be less dependent on the experience of the workspace, while during the active generation or incubation process its showed that participants valued certain aspects of the work environment. Three concepts emerged from the interview. The experience of different things and experiencing flow. Furthermore it was not only linked to the creative process but also to a sense of creativity itself. Further theoretical study helps to further explore these emerged interactions between the workspace and creative behaviour. These concepts are further explained by the use of the “person – fit theory”.
Phase 2: A snapshot of the workspace
The fit between workspace and knowledgeworker

A theoretical explanation for the emerged concepts of phase one can be found in the so-called ‘Person-Environment fit theory’. As discussed before environmental determinism is too simplistic as is it sees the physical surroundings as a cause for behaviour of users (Gifford, 2002; Vischer, 2008a). To illustrate, research within this paradigm might look for the relation between the amount of daylight and creative performance. Instead, the connection is complex and exists between the characteristics of the employee and the characteristics of the physical work environment. By simplifying the connection of the workspace and knowledge worker to a ‘if-then’ logic the preferences are investigated but it gives little insight on the performance of the building (Kaufman & Beghetto, 2009), i.e. to support work. The ‘regular’ approach is thus inadequate to assess the influences of the physical elements on creative behaviour. Instead the individual should be seen as a coping organism instead of bystander (Kaplan, 1983).

![Diagram](image)

**Figure 6** Wellbeing and creative behaviour is affected by the fitness between the supplies the physical environment has to offer and the needs of the perceiver (own ill. based on Kirstof’s model (1996, p.4))

The person environment fit theory is such an approach that explains this complex connection (Edwards, Caplan, & Van Harrison, 1998; Kaplan, 1983; Puccio, Talbot, & Joniak, 2000). Its groundwork lays in stress research where the environment is seen as events that causes stress, and the (mis)fit between factors related to both person and environment determine behaviour, attitude and stress (Csikszentmihalyi, 2014). This view points out that a creative person would be most creative in an organisation that
requires creativity, but the person could very well also conduct non-creative activities in an organisation that emphasizes productivity. Which will be at the cost of his well-being.

According to Edward the misfit can be seen as the subjective appraisal of the individual, that supplies are inefficient to fulfil their needs (2014), consequently a subjective appraisal indicating that supplies are sufficient to fulfil the person’s needs leads to a fit. A mismatch between the objective person and environment proved to be of little impact on mental health as long as the person did not perceive it (Csikszentmihalyi, 2014) making the perceived misfit the preferred measurement. Most research on the effect of organisational elements such as leadership, autonomy etc. on creativity measure the perceived effect (Teresa M Amabile, 1988; Teresa M Amabile et al., 1996). Mumford argues that the perception of the environment might be as important as the objective context as changes of the context might be moderated by personal preferences (2000). He further argues that future research on climate should capture perception relevant to innovation. His argument is in line with the concept of the pe-fit, making the perceived (mis)fit also relevant for further exploration for the interaction between the workspace and creative behaviour.

The definition so far would imply that a misfit directly causes stress or strain but in fact an individual uses certain behaviour to adapt or adjust to the situation, mitigating the mismatch. Vischer talks of a misfit when the environment places inappropriate demands on the person, in spite of its ‘coping’ behaviour (2007). This coping requires energy which otherwise could have been put to use in performing tasks. Bitner speaks of ‘approach’ behaviour, such as exploration, affiliation or carrying out their purpose within their organisation, when internal valuation is positive (1992). Individuals will show ‘avoidance behaviour’ when the internal response is negative.

The person environment fit can be split into two different versions: supplies – needs fit (or supplies-values) and demands- abilities fit (Csikszentmihalyi, 2014; Kristof, 1996). The first one can be seen as the degree of similarity in values and goals between the person and environment (J. N. Choi, 2004b). The second one can be seen as the demand put on knowledge and skills by the environment, i.e. organisation. According to Choi creative behaviour is promoted when the individual needs are met by the environment and when he or she possess the knowledge and skills that are sufficient for the situational needs of creativity. Some situations in the workspace might demand some
sort of abilities or skills of its users to effectively use it, for example when shared, open workspace is used to enhance interaction between employees. If an employee prefers to work alone it causes a misfit and the employee will use coping strategies to adjust to the misfit. This brings us to the following hurdles regarding the applicability of this approach: Can the PE-fit theory be used for a different outcome then stress? And can it be applied for to assessment of the relation between the workspace and knowledge worker? These questions require answers because (1) It origins lay within research focused on stress as an outcome and not creativity. (2) Most indicators are coming from the social cultural part of the environment and not the physical part.

Amabile mentions a fit in resources and the (creative) task. She speaks of a certain threshold were too much would not necessary lead to more creativity and where below the threshold would possible dampen creativity (1998). Csikszentmihalyi argued that the place where we live and work should reflect our taste and needs in order to improve creativity (1997). Others have shown that a match between person and (social-cultural) environment does indeed lead to higher perceived creative performance (Haynes, 2007; Shneiderman, 2000). It showed that someone who valued himself to have an adaptive style (i.e. high concern for efficiency), scored higher in creativity when the organization demanded such a style. And someone that valued himself to have an innovative style (i.e. low concern for efficiency), scored higher in creativity when the organization demanded such a style. Motivation, affect and social interaction has broadly been accepted as powerful mediators for creative behaviour (Teresa M Amabile, 1988; Shalley et al., 2004; Wineman et al., 2009; Woodman et al., 1993; Zhou & Shalley, 2003). A misfit between the physical environment and person leads to negative affect, limited motivation and possibly impede social interaction (McCoy & Evans cited in (Baird et al., 2012) it can be argued to be inhibitive for creative behaviour. Furthermore Gibson’s affordance theory further shows that the physical environment can indeed be appraised or valued by individuals:

"perception is a system that picks up information that supports coordination of the agent’s actions with the systems that the environment provides… the characteristics of objects and arrangements in the environment that support their contributions to interactive activity and, therefore, the characteristics of the environment that agents need to perceive” (Greeno, 1994, p. 341).
Values of the workspace

Through this perception an individual ascribes meaning or value. According to James & James this process is based on two principles: (1) Individuals respond to the (physical) environment in terms of how they perceive them and (2) the most important component of perception is the meaning they ascribe to environment by the individual (1989). This type of analysis or preference of space helps the object (i.e. user) aid’s in its functioning (i.e. appropriate behaviour) (Kaplan, 1987). Fischer et al. call this interaction the process of where the individual is ‘managing’ its relationship with the physical environment through cognitive mechanisms and affective reactions (2004).

Figure 7 The indirect relation between the workspace and creative behaviour through cognitive and affective valuation processes of the perceiver

The process of ascribing a meaning on physical objects entails two phases: a descriptive- and an evaluation phase. The descriptive phase relates to the cognitive processing of the environmental stimuli. Huit & Cain refer to it as “Cognition refers to the process of coming to know and understand; of encoding, perceiving, storing, processing, and retrieving information” (2005, p. 1). It is generally associated with the questions of what is going on
or what is out there. Cognitive mechanisms regarding the physical environment could be for example spatial orientation, place identification, doing work, and feeling secure (Di Fiore, 2012). Beyond the ‘what-is-out-there’ question lays the ‘evaluation’ process. According to James & James the evaluation phase, compared to the cognitive descriptive process, is more internally oriented and requires additional information processing to judge how much of a value (2005, p. 739) is given. This valuation is embedded in the wellbeing and emotional responses (Florida, 2005). So values serve as standards for the individual’s wellbeing and guides behaviour.

There are two more types of values or needs besides Gibson’s affordance which tell whether the workspace is supportive or not. According to Vischer there are three levels to what an user requires:

- physical
- functional
- psychological

Physical comfort concerns the most basic needs of health, hygiene and safety, e.g. sitting dry, feeling safe from hazards etc. This basic need has been studied quite extensive and has been implemented in building regulations and codes. Without it a building would be inhabitable. There is no need to be creative if the most basic needs are not fulfilled. Two levels are then interesting to further explore: the functional- and psychological needs. The functional needs are related to the task that needs to be performed. This is the field of ergonomics in which appropriate lightning, furniture, air circulation etc. are of importance. The psychological needs concerns a sense of belonging and control over the workspace (Kaufman & Beghetto, 2009).

Vischer’s levels of needs are not yet operationalised or translated to (subjective) values. Needs might be more deeper and harder to get a grasp on while values can be expressed as the subject assigns a meaning to an object, hence there has already been a form of interaction between environment and individual. Artefacts or the physical workspace can be categorised into three major values (Crilly, 2010; Field, 2013; Tomi, Kirsi-Mari, & Annika Johanna, 2015):

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6 It is not that I assume that people can’t be creative under physical distress. It is highly possible, even plausible that under danger people are creative in finding solutions. It is more for obvious ethical reasons that such an environment is not beneficial for the overall well-being.
- Instrumental value
- Aesthetic value
- Symbolic value

The aesthetics of the interior have been found to have an effect on the experience of individuals and their emotional outcomes (Field, 2013; Ritterfeld & Cupchik, 1996). It is mostly considered with ‘beauty’ and ‘ugliness’ or affiliated with ‘pleasantness’. But the role of aesthetics within the workspace environment seems to get less attention than the other two values (Tomi et al., 2015). Especially with creativity as there probably will never be (evidence) to prove that a delightful setting induces creativity (Csikszentmihalyi in (Haner, 2005)). It does not mean that aesthetics has no role whatsoever as it could be argued that it depends on the narrow description of aesthetics. According to Kaplan aesthetics cannot be seen as a mere reflection, it also guides behaviour and has ‘far reaching consequences’ (1987). He explains that, based on the processing of information, i.e. physical cues, the valuation of aesthetic might be close to evolitional process of humans and their behaviour. Experiences provide value and utility similar to utilitarian attributes (Brakus, Schmitt, & Zarantonello, 2009) and thus functional or instrumental needs.

Discarding the physical comfort of Vischers model and the purely aesthetic level of Vilnai-Yavetz et al. leaves two levels of values that determine the experience of the physical workplace: instrumental and symbolic.

**Instrumental value**

The concept of instrumental value is similar to the functional needs of Vischer (2009). It describes the workspace as objective attributes to maximise benefits (Lievens & Highhouse, 2003). Instrumentality effects task performance and can be seen as the evaluation of how much utility the perceiver can get out of the object or place. Users of the workspace have certain goals (Gifford, 2014) and these physical elements either help or hinder the accomplishment of these goals (Rafaeli & Vilnai-Yavetz, 2004). It focuses mainly on the descriptive, rational part of valuing the environment. Affordance “….is a property of whatever the person interacts with, but to be in the category of properties we call affordances, it has to be a property that interacts with a property of an agent in such a way that an activity can be supported” (Woodman & Schoenfeldt, 1990, p. 340). Most
ascribe instrumentality or functionality to the - classical - physical ergonomics of the physical environment (Baird et al., 2012; Field, 2013; Kaufman & Beghetto, 2009). According to Hemlin et al. there are two basic (functional) needs related to creativity (2008). The first is the opportunity to contact others. Second, a place to reflect and ‘nurture creative thoughts and ideas’ (Hemlin et al., 2008, p. 206). Hemlin’s view corresponds with that of Heerwagen et al. They call the very nature of the activities of knowledge workers both highly social and cognitive (Heerwagen et al., 2004). Cognitive skills are needed to produce ideas and the social skills are needed to make them available to the organisation. As said before, creativity is 99% hard work and 1% inspiration (Ratey & Loehr, 2011). The cognitive process, related to it, requires significant cognitive performance compared to normal critical thinking (Santanen et al., 2000). The interaction between knowledge worker and the workspace could thus be assessed on the ‘manageability’ of both internal and external information. In which the internal information is seen as the cognitive process regarding the creative task itself, while external information concerns environmental cues or stimuli. Three more functional elements are proposed that help knowledge workers to ‘manage’ creative thinking: mind wandering, experiencing flow and extended cognition.
Mind Wandering

“If you can quiet the yammering of the conscious, controlling ego, you can begin to hear your deeper, truer voice.”

~ Cook (in Vanden Bergh & Stuhlfaut, 2006, p. 376)

Let’s assume that someone is trying to come up with a new idea, putting great effort into doing so. At some point there might be a mental block. He can try to ‘break through’ putting extra stress on cognitive load or let it go. This second option counterintuitively enhances creativity through two effects (1) restoration and (2) incubation.

Restoration helps to reduce mental fatigueness, reducing cognitive load and thus helps when the individual is ‘getting back’ into generating ideas. Restorative design elements include retreat, fascination and exposure to nature it further demands minimum distraction and some degree of isolation (Evans & McCoy, 1998) are related to things users intrinsically enjoy. In order for an environment to be restorative it requires it to hold the attention and not just simply assert it (Brakus et al., 2009). There are different theories of the psychological functions of restoration, ranging from attention, stress reduction to mood (Bratman, Hamilton, & Daily, 2012).

Easy pedestrian or visual access to natural settings are helpful (Hartig, Evans, Jamner, Davis, & Gärling, 2003). This could be real settings, such as walking in the park, a window view or even plants within the office environment. But also ‘simulated settings’, such as murals are found to be restorative (Felsten, 2009).

The interviewees from phase one reported the significant effort it takes and that they showed strategic behaviour to ‘restore attention’. It not only to restore mental fatigue, and thus to be ‘fresh’ to engage in the – demanding - creative task again, but it is also beneficial to come an actual novel and useful idea. This is what the ‘inspirationalists’ call the incubation period. The interviewees reported different incubation periods, ranging from hours to weeks. There are two types incubation processes: sleeping and mind wandering (Ritter & Dijksterhuis, 2014). Mind wandering is something that can occur relative briefly on a daily basis by engaging in undemanding tasks, there is period of the mind it which it can ‘wander’ (Baird et al., 2012). Baird et al. found that resting, breaks or

7 I assume that ‘sleeping at the job’ is currently a bridge to far at the workplace. Therefore mind wandering is further discussed.
nonrelated - demanding tasks had a significant lower effect on creative problem solving than nonrelated – undemanding tasks (2012). Simple tasks might be meditating, playing ping pong or even watching through the window to the outside ‘world’. The functional value of the workspace is then to facilitate activities that do not relate to conventional work tasks but support more physical / fun activities.

Mind-Flow

The physical environment that excites, stimulates and challenges the perceiver is often mentioned as a possible source to support creative thinking (Teresa M Amabile et al., 1996; Cambridge University, 2016; Haner, 2005; Tomi et al., 2015). Experiencing ‘flow’ is crucial for creative thinking as it involves complex patterns of thoughts (Ratey & Loehr, 2011). The experience of flow is a sense were the individual becomes one with the creative process and loses sense of time and space (Evans & McCoy, 1998). Flow occurs when a difficult challenge corresponds with a high set of skills. Csikszentmihalyi argues that all forms of distraction should be removed, where it is just the task at hand what is left. His research focused on the creative individual, their traits and the social circumstances. The distractions he means are thus from the social environment, e.g. family or money issues. Furthermore his focus was to explain creativity by assessing Big-C creativity (Vischer, 2008b) and not little-C creativity as is the case within this study.

One of the key concepts that emerged through the first phase of this study was that through their creative process interviewees required visual and or auditory stimuli to get in sense of flow or truly ‘feel’ creative. Authors within the field of the ‘brand experience’ call this the think- or intellectual experience (Lievens & Highhouse, 2003; Schmitt, 1999). This type of experience supplies the ‘need for cognition’ for individuals that require it. Individuals high in need for cognition are more likely to be sensitive to stimuli than individuals with a low need (Cacioppo & Petty, 1982). According to Csikszentmihalyi people experience their environment more positively when a place gives high opportunities for actions and when they have the ability to act (2011). This ‘fit’ can be explained with Kaplan concepts of understanding and exploration. Kaplan describes that individuals make sense of the environment through ‘understanding’ and are being held or ‘attracted’ by it through ‘exploration’ (2011, p. 10). Physical features which affect ‘coherence’ relates to the concept of understanding, while the physical features regarding ‘complexity’ and ‘mystery’ are related to exploration. Mystery is different
from complexity due to availability of the information. Complexity depends on the information that is immediately available and mystery ‘promises’ further information if explored. Knowledge workers with high cognitive skills, a high need for cognitions might thus benefit from (visual) complex workspaces to experience flow and subsequently enhance creative thinking.

Experiencing flow might also come from ambient conditions, especially visual and auditory noise. Multiple interviewees talked about places in which people were talking, music was playing or other stimuli, as long it was not directly requiring attention. There were not considered as distractions but actually beneficial for the experiencing of flow. Visual access to or within an open space with movement might be beneficial for

**Extended Mind**

Knowledge workers try to ‘manage’ the interaction with the workspace through cognitive and affective mechanisms (Di Fiore, 2012). This managing resides not just in the head but extends itself to the physical environment. Classic theories of cognition sees work as something that “resides in the mind” but more recent theories describe the information-processing, i.e. cognitive process as an interaction between individual and the environment, i.e. ‘extended cognition’ (Hollnagel, 2001). The concept of extended cognition recognises the physical environment as an instrumental value for daily work (Spinelli, Perry, & O’Hara, 2005). Although it extends, it does not distribute to other technical - gadgets, devices, machines, interfaces, complex processes- or social - rules, rituals, procedures, social structures and organisations - artefacts, instead the individual extends its cognitive control over the environment (Hollnagel, 2001).

Extension of the mind requires a physical environment that ‘gives’ the freedom to the knowledge worker to actively use its direct environment during the creative process. One interviewee mentioned the use of ‘project rooms’ in which project members get the time and space to use that environment as they please. While another mentioned that a personal desk to leave his ‘tools’ helped to ‘free’ his mind.

According to Hollnagel extended cognition can be observed in the ways people use technological and social artefacts to improve or maintain control over what they do (Hollnagel, 2001).
**Psychological values**

Psychological comfort links the knowledge worker to the physical environment through feelings of belonging, ownership and sense of control (Kaufman & Beghetto, 2009). From an interactive perspective feelings of belonging are of interest as the perception and assessment of the workspace affect the view of knowledge workers themselves (Di Fiore, 2012). Bitner used the cognitive term ‘belief’ for the value individuals put on certain elements within their physical environment (1992). This sense of belonging is reflected in the ‘symbolic values’ of Vilnai-Yavetz et al. in which they use the items of status and identity.

**Creative self-identity**

"The workplace should reflect what we intent to be."

The symbolic values refers to the associations made with the physical environment. It does not come directly from the physical elements but is a process of interpretation of the environment (Field, 2013). It is an interaction between the person and environment in which the individual ‘creates’ an environment that reveals the nature of the self and the environment in turn gives the information back to the individual, thus reinforcing self-identity (Proshansky, Fabian, & Kaminoff, 1983). The symbolic value could be seen as the need to maintain the self-identity, to enhance the self-image or express themselves (Puccio et al., 2000).

Bitner mentions that this type of valuation or ‘communication’ is a very complex one, possibly intentional or unintentional, and different from who perceives it (1992). She gives the example that student’s beliefs of faculty members were influenced by desk placements and diplomas on the wall. Nasar calls it symbolic aesthetics in which individuals put conative meaning on their physical surroundings (1994).

In this sense, different elements of the workspace might be seen as symbols which convey meanings and help to ‘stabilise’ the self-identity (Kaplan, 1987). The self-identity
can be seen as a cognitive construct in which individuals interpret its own and others’ behaviors; it allows the individual to form a clear idea of the type of person he is in a particular situation (Di Fiore, 2012).

A similar type of valuation emerged from the interviews from the first phase of the research. Multiple interviewees gave symbolic meanings to the workspace in which they previously worked or were currently working. It seemed that certain elements of the physical environment were ‘believed’ to be creative while other were not. Being part of an environment that symbolises creativity is then possibly a reason why ‘creatives’ find such environment important to be creative. For those that do not see themselves as creative would not need a similar environment as that would cause a misfit and inhibit creativity.

The quality of materials used in construction, artwork, presence of certificates, photographs on walls, floor coverings and personal objects displayed in the environment can all communicate symbolic meaning (Bitner, 1992, p. 66).

**Creative self-efficacy**

Creative self-efficacy reflects the role of perceived behavioural control in the context of creative performance. In other words, it refers to a person’s belief that he or she can successfully perform creative behaviour in a particular setting (J. N. Choi, 2004a). According to Vischer there are two types of ‘perceived control’: mechanical, instrumental or empowerment (2009). The latter is not relevant for this study since it concerns decision-making during the design phase of creating workplaces. The former concerns chairs, tables, switching on or off lights etc. This view is quite limited and in line with classical ergonomics. Adopting cognitive ergonomics would possible extend the sense of control or freedom further to the workspace than just the chairs, lighting etc. as mentioned in the instrumental value: extended mind.

The interviews of phase one indicated that the sense of freedom within the workspace is an important value of the workspace. Some related it to ‘spacy-ness’ while most ascribed it to the opportunities to use different spaces that ‘intuitively’ helped their creative process. In this sense, freedom is ‘given’ to the knowledge worker to be in control over its own creative process by choosing how, when and where to do it (Teresa M Amabile et al., 1996). Barnes argues that choices within the physical environment are desirable and that the experience of perceived freedom leads to perceived control, in
which one can anticipate the likely outcome of choice, making it more likely that one will obtain the desired choice (Veitch & Gifford, 1996). The value of experiencing different places resides not only within what those places have to offer but also the value of knowing that one could go there and experience it.

The Cognitive and affective processes of creativity

Creative thinking is not only a function of the cognitive process but is also closely related to emotions (Kristof, 1996; Zhou & Shalley, 2003). Amabile found that affect, within the organisational setting, is related to creativity in three ways (1996). It coexists or is a concomitant, and it thus happens during the creative process. Feelings of joy during the process arises when deeply involved in the challenging task. It is closely related to intrinsic motivation. Affect could be considered as an ‘input’ for the incubation period as well. They found a positive relation between performance and affect when the incubation period was limited to a day, with maximum two days. This relation can be explained by the help positive emotions gives to make more connections, use broader categories and see more relatedness among them (Madjar, Oldham, & Pratt, 2002). Finally being successful leads to emotional responses as mild feelings of pleasure to joy or more expressive feelings of elation or pride. Just like with incubation the effect of emotions last only around a day.

Workspace elements that supply the need for mind wandering or mind flow do not only have a positive influence on the cognitive part of the creative process but also possibly to the affective process through levels of arousal. Different levels of arousal have an effect on how we process information. Low levels of arousal lead to inactivity and leads to low cognitive performance, while extreme high levels of arousal reduce the capacity to perceive and process information (Dreu, Baas & Nijhof, 2008, p.741; Amabile et al, 2005)). Dreu et al supported their ‘dual pathway theory’ with several studies and it showed a positive relation between mood and the creative output (fluency and originality) when moderate levels of arousal were used (2008). This corresponds with Berlyne’s view, which says that moderately complex stimuli is preferred over simple or overly complex stimuli (Hoegg & Alba, 2008).
The conclusion from Dreu et al’s research are that activating moods (e.g. angry, fearful, happy) leads to more creativity than deactivating moods (e.g. sad, depressed, relaxed, serene). Second, activating moods with positive tone lead to creative performance through enhanced cognitive flexibility and inclusiveness. Third, activating moods with negative tone lead to creative performance through enhanced cognitive perseverance and persistence. So it is not only positive moods which effect creativity but also negative moods. Additionally the different moods lead to different cognitive processes.

Their findings are interesting as it gives a possible connection between physical stimuli and creative behaviour. What is especially interesting is that a deactivating mood as serenity is considered to be less effective for the generation of ideas. A possible explanation for this might be the time factor related to incubation. In the studies, conducted by Dreu et al., participants were given a short period of time compared how long incubation might take place.

The theoretical model (fig.8) shows the relation between the workspace and creative performance through perception of ‘creative fitness’. The second study explores which physical elements are related to the different instrumental and psychological values of creativity.
Research design study II: “A snapshot of the workspace”

The second study was conducted through the use of daily surveys and photographs. Each participant answered 11 questions and send a photograph on a daily basis. They received an invitation at a random moment each day with the request to participate. It ‘brings’ the observer close to participant without actually the need to be physically present. Furthermore the random moment ensured that participants would not try to influence the study. After the fifth and final survey they got an evaluation with six questions regarding creative self-identity and creativity at work.

Photographs

‘Pleasant’ environments to restore the mind and give ‘room’ for incubation require moderate diversity (Vanden Bergh & Stuhlfaut, 2006) to draw and hold attention from normal, routine work (Kaplan, 1992) and give some sense of enclosure (Evans & McCoy, 1998). Especially accessibility to natural elements are found to be restorative (Felsten, 2009; Hartig et al., 2003). Accessibility could be “being within the natural scene, e.g. park” but also a window view with visual access to the natural scene. Furthermore, paintings of natural scenes and indoor plants were positively related to restoration. Finally natural materials were also included in the analysis of the photos. McCoy & Evans found a positive relation between creativity and natural materials such as wood, stone and bricks (2002). But as mentioned before, they did not look at the relation between behavior and physical environment. Instead they assessed the relation between output, i.e. perceived creative performance and physical environment. Therefore their findings are also put in as one of the variables in order to see whether their findings could possibly be explained by supporting ‘mind wandering’.

‘Interesting’ or ‘exciting’ workspaces might possible be visually rich and low in coherence. Coherence considers compatibility of the environment. When there is a low coherence, there are physical elements which seem to be somewhat out of tone. Atypicality depends on the something that sparks the interest.

Nasar uses the concept of typicality that brings the formal concept of complexity and conative meaning of aesthetics together (2006). But since conative meaning is based on
the experience of the perceiver himself, typicality can’t be assessed by an external judge, hence he has a different meaning. The actual meaning can differ but the objects might be the same. Bitner argues that artefacts such as paintings, certificates and photos carry symbolic meanings (1992). These artefacts can be also be formally described as certain objects. Therefore the variable of typicality or a-typicality is the amount of objects that are not-task related.

**Assessment procedure photo’s**

All photos have been judged by the author of this thesis together with another master student in architecture. The items that were used for analysis were based on literature research (Bitner, 1992; Dul et al., 2011; McCoy & Evans, 2002; Vanden Bergh & Stuhlfaut, 2006) Two different scales were used. A dichotomised scale (1 = not present, 2 = present). The other items had a 5 Likert scale (1 = no amount, 2 = little amount, 3 = normal amount, 4 = high amount, 5 = very high amount). Based on all photos a ‘normal’ was set on which all other photos were compared.

Indoor plants, window of outside nature, other view of nature, window view, functional objects, non-functional objects were items that had two values. Natural elements, difference in texture, amount of colours, contrast, amount of objects, personal items, and enclosure were items used that had five values.

**Dependent variables**

Six items were constructed, related to the functional together with the factors proposed by (Field, 2013). Three items related to mind wandering, three to mind flow and one to extended cognition. All items had 4 values: 1 = strongly disagree, 2 = somewhat disagree, 3 = somewhat agree, 4 = strongly agree.

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8 The appendices show the survey, with the items and corresponding values.
Results

Before values were put on the photos a selection was made, based on similarity. When photos were from the same individual, showing a very similar situation, the photo was discarded. From 72 photos, 45 remained. 27 photos were thus discarded for showing too much resemblance. Which such a small sample this amount of photos would have a significant influence on the analysis. There was a total of 21 participants. The average age of the participants was 39.7 years old. The most frequent level of education of the participants was a college degree.

Figure 9 A photograph scoring high in perceived restorative functioning

Workspace factors and Mind wandering

First step was to assess which physical elements had a possible effect on “mindwandering”. Mind wandering was operationalised into three items: “I can completely lose myself in the views this place has to offer”; “I think this place is

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9 HBO in Dutch.
beautiful” and “this place helps me to have a moment for myself”. Cronbach’s alpha is 0,86 indicating that these three items measure the same concept.

The first item on which independent variables were tested was perceived beauty of the space. From all items 5 were candidates for further regression analysis. Fisher’s exact tested indoor plants, enclosure, window, texture and colours with significant values p < 0,3, which is , according to Hosmer and Lemeshow, high enough to try for logistic regression (1989). Backwards regression showed that indoor plants, texture and colours are increasing the fitness of the model from 67% to 74,4%. The odds ratio showed that higher texture is associated with a low level of perceived beauty while a higher amount of colours is related to a higher perceived level of beauty. The second item on which the physical factors were tested was that of the “this place helps me to have a moment for myself”. Again a significance level of p < 0,3 was used to choose factor for further analysis. 6 items were used for backward regression: indoor plants, window view of nature, other view of nature, natural materials, colours and the amount of objects. It moved the fitness from 85% to 91%. The variable that has significant influence is that of the natural materials, that was related to a low amount. For the third item for mind wandering the factors of the workspace were cross tested on “I can completely lose myself in the views this place has to offer”. Window view of nature, texture, contrast, amount of personal items, functional objects and window view were the items that showed potential for further analysis. The degree of textures and a window view increased fitness of the model but did not prove to be significant (p < 0,05).

**Workspace factors and the flow of mind**

The next concept that was analysed was that of the experience of flow. The sense of flow was operationalised into three items: “The environment in which I reside now stimulates me”; “Within this place I can completely be absorbed by the task at hand” and “This place intrigues me”. The three items were tested if they are part of one factor. The Cronbach’s Alpha is 0.74, above the recommended threshold.

Cross-tab analysis showed that for the first item, three workspace factors could possible related. These factors were indoor plants, other view of nature and the amount of colours. These three variables were loaded for logistic regression but showed no better fit then the constant. “Within this place I can completely be absorbed by the task at
hand” showed a possible dependency with two items: texture and enclosure. But after loaded for logistic regression, no item showed to improve fitness of the model. The third variable showed a significant relation with multiple factors of the workspace. Natural elements, texture, colour and the amount of objects within space showed a significant value \( p < 0.05 \).

![Figure 10 A Photo of one of the participants hat reported to be intriguing and stimulating](image)

**Extended mind**

Exploratory analysis of the photos showed that only a few indicators of physical elements related to extended cognition, such as white boards. The counts would be too low to measure a possible connection and therefore was not further used in exploratory analysis.
Creative self-identity

A Cronbach Alpha test have been conducted to test the homogeneity of the scales of both the multi item scales of creative self-identity and self-reported creativity at work. The test showed an α = 0,9 for the creative self-identity which is, according to Tavakol & Dennick, on the high side of reported reliabilities (2011). The test for self-reported creativity at work showed an α = 0,67, which is a bit lower than the common-used threshold of 0,7 (Tavakol & Dennick, 2011) but this could possibly be explained by the low sample size of 21. The average value of creative self-identity was 3,08. So on an average the participants felt that creativity was part of who they are. They also felt that they were creative at the job on regular basis, supporting the founding of the first study that creativity is perceived to be an important of the job. “This place helps to distinguish myself” was used as an dependent variable for the symbolic value of the workspace. Two factors were found to have a significant value during cross-tab analysis: texture and contrast.

Figure 11 A photograph of a traditional - cellular workplace, scoring high on perceived control over their workplace and distinguish himself.
Discussion

The aim of the second study was to further explore the possible connection of the workspace with emerged concepts, related to creative behaviour. Some variables were found to be of significant value, indicating that they indeed are related to functional values that either help stimulate the individual or help restore mental fatigueness. Especially the perceived ‘intriguiness’ of the workspace was significantly related to three out of the four workspace variables, related to complexity. It could thus be argued that a workspace that is rich in visual details fulfils the cognitive need to be stimulated.

Explorative analysis also indicated that some expected physical variables are related to need to restore cognitive performance. After logistic regression natural materials, indoor plants, difference in texture and amount of colours were found to be related. Texture and the amount of colours were part of the complexity variables but showed to be significant for restorative function. A possible explanation might be that in order for the – view of – physical elements to have a restorative effect, they should able to ‘hold’ the interest of the individual seeking for restoration (Schmitt, 1999). Some level of complexity might thus have pleasant arousal effects.

Some dependent variables require further refinement such as “I can completely lose myself in the views this place has to over”. Refinement would possible improve the value of these variables. While other were not able to be measured at all. Items related to the ‘extension of the mind’ were only found in a couple of cases, making it unsuitable for further analysis. Also other visual access to natural elements such as painting, photographs were not found, making it impossible to analyse.

Analysis of the data did show that there is a possible link between how people identify themselves and the ‘looks’ of the workspace. It was expected that such valuation of the workspace would have a positive relation with non-task related objects, such as paintings, photos or ‘unique, fun objects’. Instead it showed a positive connection to variables related to complexity. A possible explanation could be found in the small differences in perceived symbolic and aesthetic value. Vilnay- Yavetz et al. found that the measurement of the two might not be so distinct as they expected it to be (2013).
Limitations

The results indeed indicate that there is an interaction between the physical environment, that ‘supplies’ the knowledge worker with elements that symbolise creativity and help manage creative thinking. But there are some limitations that needs to be taken into account. The measurement of possible connections were done by first analysing the physical elements through the use of photos. These were cross-analysed with six variables, which likely represent the values. The use of photos give an quick and easy insight of the environment in which the participant is working at that particular moment. They were not instructed on how to make the photograph, giving the participants the choice to show what they inherently value to be of importance. This resulted in photos that were difficult to be judged, since some were to focused on the workdesk leaving little view of the space.

Although it was conceptualised that creative self-identity is possibly related to how individuals value their workspace it could not be measured in the study. The data of the self-reported creativity showed very little variation and seems to indicate that it is biased.

Furthermore the people most likely do not make a strict distinction in process of perceiving the social and or physical environment, meaning that social factors might mediate the perception of the physical environment. For example, in the study some individuals worked at home when they received a notification to participate with the daily survey. The study was not controlled for this variable, hence one of the objectives of the study was to literally get a picture of when, where and how they perceive the places they work.

The sample size was small. Necessary due to the limited time available and the extensive amount of time it takes to analyse the photos. Furthermore it was expected from the four organisations that two would have been more ‘traditional’ offices while the other two would have more ‘modern’ offices\(^1\). The photos showed three traditional types and only one modern type, having a possible impact since it is such a small sample.

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\(^1\) This assumption was based on previous contact and the interviews conducted in study 1.
Reflection: “The creative insight”

For some time now creativity is seen as of great importance for nations, organisations in order to remain competitive and to achieve sustainable growth, it even effect the wellbeing of people. All organisations are then deploying strategies to create an environment that supports creativity, right? When we look at the practical and theoretical implications of creativity within the corporate real estate, it gets very little attention. This thesis adopted the interactive approach of organisational creativity to start the exploration of the interaction between the workspace and creative behaviour of the knowledge worker. The goal was to expand theory from ‘as-if’ knowledge to a more elaborative view on the relation between the physical environment and creativity. The main research question was “How does the workspace interact with the creative behaviour of knowledge workers?”

To answer the research question two studies were conducted. (1) The focus shifted from exploring creative behaviour within the work environment (2) to exploring elements of the workspace that could have a positive relation on this behaviour.

Based on literature on socio-psychological- and organisational research of creativity, qualitative interviews were set up to explore creativity at the workplace. It showed that people require creativity at work, not just in the common view of creating a piece of art, but creative thinking. It entails the ability to come up with new and useful ideas (to solve problems). Two concepts emerged though the process of coding: (1) roaming and (2) creative place. Roaming is used as an analogy for the behaviour that participants reported during the creative process. During the preparation phase they needed both virtual and actual connection with relevant ‘nodes’ within their social network. But little notion was given on how the physical environment was experienced. Two other concepts was closer related to the physical environment that is perceived to support them during the creative endeavours.

The first study showed that knowledge workers have needs, regarding the creative process, that they actively seek to be supplied. This insight brought the theoretical framework to the ‘peron-environment’ fit theory. This theory comes from research on stress and explains the connection between the individual and the environment as the fit between the supplies that the environment has to offer and the needs or values that the
person has. A misfit results in coping behaviour, resulting in energy misspent which otherwise could be used for the task at hand. It effects both well-being and performance. Further literature research showed that individuals are able to place values on the physical environment, more explicitly on the workspace. The needs founded in the first study can be placed in the instrumental/functional -and psychological/symbolic value.

The second study indicated that ‘nature’ and ‘complexity’ are possibly related to restorative and stimulating needs of knowledge workers in order to be creative. It implies that details within the workspace do not only have an aesthetic value but actually help to manage the cognitive processes of individuals.

Furthermore it has been indicated that creativity in itself can placed as value on the workspace. The concept relates to self-identity. Individuals seek reflections of the self in order to stabilise it. The workspace as a symbol has been recognised by some and only few found evidence that employees put symbolic value on the physical work environment by reflecting their own identity. Those that perceive creativity to be part of their identity seek thus for cues within the workspace that help to confirm their creativity. Certain elements might thus be beneficial for creative behaviour without it directly influencing. It is possible that through the process of affect creative performance is positively influenced.

This research has implications for practice. It shows that creativity is not just part of nature, i.e. personality trait, but can actually be ‘nurtured’ by the environment. It places creativity as an active process between knowledge workers and the workspace. Although more research is needed it shows that workplace-strategies that focus on mere productivity and efficiency might not be the most effective for creative behaviour. A possible mixture of complex spaces that helps the experience of flow and spaces that give individuals sense of enclosure, with natural elements to let the mind wander might be helpful for organisation to create a better flow of ideas.
Reflection on methodology

This research used a qualitative approach as the interaction between individual, its creativity and the physical surrounding is complex. Finding out how the physical environment influences the perceiver depends on ‘reality’ that is subjective in nature. It is ‘created’ by an interaction between the individual and its – social - world (Yazan, 2015). Two different methods were used. For the first part open interviews were used to explore creativity.

Creativity as a subject, showed that the open interviews were indeed beneficial to let the interviewees speak freely and explore their own experiences during the creative endeavours. Where normally the significant part of the literature study is done beforehand of the research, I had to use literature to get a better understanding of the needs that came out of the interviews. It helped to build up my theory in this sense.

The second step of my research was to further test this theory. The goal was to see which elements are positively related to the values which were identified, e.g. Is stimulation positive related to different texture/materials within the workspace. This was done by a survey, which measures the perceives support, and by the use of self-made photos of the space in which they were residing at that moment. Two important problems arose during the use of this method that caused the photos to be less usable (or in some cases unusable) for further analysis.

The first one is letting participants make their own photographs. There was too much variance in the perception of what the current space was or at least what the photo showed. It might be necessary to have a short instruction or example of what a good or bad photo would be. In my case I had to discard some pictures since they only showed the desk and the chair with barely any view on what the space looks like.
A second issue that emerged was caused by the selection of the sample. Limited by time and choice I had to use four organisations that were available. Since this method measures the use of different spaces over a period of time, participants that were often at the same place have an impact on the amount of photos that could be used. If possible, getting acquainted with the workplace might be helpful to decide whether this place and the people are really relevant for the study.

A final tip regarding the use of the second study is to use a network to get someone inside the organisation to be your spokesman or ‘champion’ of your study. In my case, I did an internship in which they did not directly give me the necessary data but gave relevant connection to get the chance to gather the data. Another option is to try and find connections within your own network. The reason why this connection is best explained by a small example. I used to have a job as a telemarketer and at that job the distinction was made between “Calling Cold” and “Calling Warm”. When calling possible customers it was a lot easier to sell something to them when they already had a product, hence calling warm. Doing research at the workplace is not easy as people tend to be territorial and fear change. Together with clear intentions and instructions, a spokesman helps to sell your research to those you need.
The first step towards leveraging creative capital

Decisions about office space have for a long time be driven by cost. This thesis started with the potential added value of creativity. Is it argued that it is crucial for organisations to survive in a highly competitive market. Furthermore it is believed to be connected to the wellbeing of employees. Creativity is thus of importance for both organisations and individuals as it concerns the generation of novel and useful ideas. It even becomes the dominant factor within the workplace (Jan van Ree, 2002). How can this factor be managed within corporate real estate?

This thesis identified two issues regarding the implication of creativity within the work environment. The ‘productivity paradigm’ and the ‘cut and paste strategy’. The first one concerns a more abstract view on what generates value for companies and increases its competitive advantage. This paradigm is also reflected in corporate real estate strategies. Whether creativity should be concerned as separate output within business processes or not is not within the scope of this thesis.

The ‘cut and paste-strategy’ has been identified as a problem that hinders the alignment of the workplace design with real estate decisions and the overall corporate strategy. Such strategies reflect a lack of understanding of the complex interaction between behaviour and place, and what creativity is. The theoretical findings of this research could be seen as a first step to understand how the workplace could be used to support or leverage creative capital helping managers to extent their view on what creativity at the workplace means. The following part places the concept of ‘creative fitness’ within the CRE-context by looking at real estate strategies and decision-making.
Linking creative fitness with real estate strategies

This research contributes to the added value – approach of office space (de Vries, de Jonge, & van der Voordt, 2008; Lindholm & Leväinen, 2006; S. E. Roulac, 2001). Back in the 90’s the concept of added value started to show in the academic field (Jensen, Sarasoja, Van der Voordt, & Coenen, 2013; S. E. Roulac, 2001). It broadened the view of corporate real estate from a cost driven perspective to an asset that can be used to achieve other strategic goals. Lindholm and Leväinen further explored this approach (2006). They came up with seven real estate strategies, based on previous research and interviews, that add value for shareholders through profitability- and revenue growth (fig. 12).

Based on the corporate strategies several real estate strategies could be chosen. It is evident that which strategies to choose or the weight of them depends on organisation and its goals. An organisation that seeks new talent might focus on promotion and/or the satisfaction of employees, while another wishes to be flexible as the organisation is growing rapidly.

Figure 12 The model of Lindholm & Leväinen shows how seven real estate strategies help to maximise the wealth of shareholders. Creative fitness concerns both employee satisfaction and innovation (modified version of Lindholm & Leväinen’s model (Lindholm & Leväinen, 2006))

The introduction of this thesis explained how the need for creativity comes from both individual and organisation. When employees are able to express their creativity or ventilate their ideas and feel supported they are happier to go to work (Florida, 2005). Organisations require innovation to stay competitive. Innovation requires creativity and organisational creativity starts at the individual. In this regard creativity does not need
to have a separate strategy. Instead this research could be placed within the strategies of “increase innovations” and “increase employee satisfaction”.

Creativity could be considered as the fuel for innovation. The latter concerns the implementation of the creative output. New and useful ideas need to be implemented before one could speak of innovation. Often something is perceived as an innovation once it is ‘socially accepted’. It depends on the social context. Besides the social component in which the individual acts with others in their network, an environment is needed that supports creative thinking. As such a workplace that supports creativity “exerts a positive influence on human beings engaged in creative work aiming to produce new knowledge …” (Hemlin et al., 2008, p. 197). This view aligns with Vischer’s notion of ‘environmental comfort’ in which knowledge workers need environmental support for their tasks (2008b).

The values identified which concerns ‘creative fitness’, can’t be really seen as the normal activities on activities such as Tabak’s taxonomy of activities: Behind the computer, writing, reading, on the phone, archiving, in a meeting, informal talk, presenting, lunch, toilet visit, coffee break and other break (in (Appel-Meulenbroek, Appel-Meulenbroek, Groenen, & Janssen, 2011, p. 124)). Creative thinking happens within and between these activities. It is both an conscious as an unconscious process. According to Haynes, the CRE-manager should take the behavioural component of people also into account (2007). The physical environment can help manage the cognitive functioning of the user during
the creative process. These underlying supportive elements are indirectly valued by those that are within the creative process as beneficial.

The output of the creative thinking together with interaction leads to novel and useful ideas. To what extent it effects the output was not researched but it plausible to assume that support increases the ‘flow of ideas’ and thus innovation. Furthermore, creative fitness possibly effects the satisfaction of employee. If the situation asks the employee to be creative, the workplace could either inhibit it or support it. As such, satisfaction is reached when supply meets the demand. A sense of support for creative endeavours leads to ‘context satisfaction’ (J. N. Choi, 2004b). Where the output of the creative process or innovation directly is effected by the functional values, it is indirectly influenced by the psychological or symbolic values (see model on p. 61).

Especially the psychological concept ‘sense of belonging’ seems to be of importance for the satisfaction. The workplace in this regard does not support creativity as a process but more as an image or direct reflection of what is perceived to creative or not. Kao advocates that companies explicitly assess the degree to which their places reflect their values and the priority of creativity in the company (S. Roulac, 2009). Young professionals tend to regard work also as a form of self-expression (van Meel & Vos, 2001). Indeed employees seems to assign symbolic values to the physical workplace and some places are perceived to be more creative than others. This link with the physical environment is a complex one. Although further research needs to be conducted, results of this study indicate that a ‘creative place’ does not necessary means more creativity. Better said, it depends on the symbolic values the knowledge worker has. If the workspace fits with his values then he feels comfortable or supported in creative thinking. A misfit would inhibit creativity. The concept of creative fitness and it’s values thus influence both employee satisfaction and innovation.

But it is possibly in conflict with the strategy to increase productivity (of employees). Creativity is difficult to grasp for individuals, they’re not always consciously in control. The process could happen in a split second, a day or even weeks and it often happens between routine work. As such it makes it even difficult for managers to control. In fact it is this ‘mode of control’ that is used to manage productivity but inhibits creativity. Although they might be considered as mutual exclusive, in the physical environment there are most likely overlapping elements. Of course productivity is of significant
importance. An environment that constantly stimulates creativity might neglect the added value of productivity. Therefore CRE-manager should understand both values in order to make a decision that balances both in such a way that it suits the organisation the most.

**Implementing creative fitness into decision-making**

CREM needs more detailed information on the actual effect on performance of the organization at an operational level to convince general management in the same way as other supporting departments do (e.g. logistics); with hard, undeniable data on financial benefits (Appel-Meulenbroek & Feijts, 2007). Very few are trying to measure intangible elements of performance, yet recognize how helpful it could be to have such measures (Lindholm & Leväinen, 2006).

![Figure 14 A tool that measures creative fitness that supports decision-making based on the KPI “employees’ opinion on how well the workplace supports their creativity (own ill.)](image)

It is difficult to place a metric on the added value of creativity compared to, for example, cost reduction strategies. Even with this type of strategy the causal-effect link is not always clear. With creativity it is even more difficult as it can be considered as a user’s value and subjective in nature. Placing creativity in the field of organisational goals is therefore difficult. One could think of metrics such as ‘novel and useful ideas per square metre’, ‘novel and useful ideas per employee’ or ‘novel and useful ideas per business
unit’. But I think that such an approach is not only difficult but also counter effective. It is difficult to proof whether changes within the physical environment are the cause of the change in these metrics. Instead the focus should be on how creativity can be supported. A tool should be designed that assesses the perceived support for their functional and symbolic values. A possible KPI would then be:

| Employees’ opinion on how well the workplace supports their creativity |

Figure fourteen shows how this tool could be used to help decision-making regarding the KPI. But what is the design of this tool? The operationalisation of the values, related to creative fitness can be found in phase two of this thesis and could be seen as the first step to a tool to measure creative fitness. It has three components, of which two are based on a survey and one based on the components of the workspace, such as colours, view of nature etc.

The research design could possibly be further designed into a tool (fig.15). But it would also be viable if more research is done to test and develop more items relating to these values. Especially creative self-identity is of interest. Further research might explain which decisions could be made to attract different types of employees.

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11 The design, results and discussion can be found at p. 62-69. The components can be found in the appendix.
The cultural component of creative fitness

Although this thesis focused on the physical component of the workplace, it also has implications for the cultural aspect. Creative behaviour could be seen as the outcome of the interaction between the individual traits, physical setting and culture. A recent study showed that creativity is influenced the most by the individual component, then culture and finally the physical environment (Dul et al, 2011). Creativity may find it origins in the individual but both physical and cultural aspects can enhance the creative performance through perceived support. Environmental psychology tells us that all three have an influence on creative behaviour. Many studies indicate that certain organisational values such as freedom, challenge, sufficient resources, encouragement are of significant importance for the perceived support for creativity (Teresa M Amabile et al., 1996). This implies that the CRE-manager should cooperate with other management to implement the strategy to support creativity. HR, executive management and business unit leaders should be included in the decision-making process to align design with actual use. If cultural values of the workplace do not match with the cultural values that are perceived to be supportive, a mismatch occurs. The positive effect of the workspace is then mitigated by the negative effects of the cultural values. To create an environment which supports creativity, strategies and decision-making should incorporate all three components. Only then real creative fitness can be achieved.
Pictures & Symbols used

Lightbulb (frontpage) by Rebecca Walthall, from the Noun Project, derived 16-12-2015

Brainstorm (figure 3) by Björn Andersson from the Noun Project
https://thenounproject.com/search/?q=creative&i=15232, derived 17-09-2015

Brain (figure 3) by iconoci from the Noun Project.
https://thenounproject.com/search/?q=creativity&i=87036, derived 17-09-2015

Idea (figure 3) by Edward Boatman from the Noun Project,
https://thenounproject.com/search/?q=ideas&i=762, derived 17-09-2015

References


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Appendices

Interview schedule

Korte introductie:

- Mezelf
- doel onderzoek + soort interview
- Soort bedrijf, wat doet het bedrijf, grootte, functie, leeftijd.

Wat versta je onder creativiteit?

- Individueel, zie een mogelijkheid (proactieve houding)
- Organisatie, opdracht (passieve houding)

Wanneer gebruik je het?

Waarvoor gebruik je het?

Hoe onderscheidt dit (creativiteit) zich van oncreatief werk?

Hoe beïnvloed je het proces? Wat doet dit met je/ Wat doe je als....?

Welke (fysieke) omstandigheden bevorderen/belemmeren het proces? Wie helpen hierbij?

- Voorbereiding – Waar haal je je informatie vandaan?
- Incubatie – Wat doe je bij een impasse?
- Inzicht – Wanneer krijg je een inzicht??
- Verificatie – Wat doe je als je eenmaal een idee hebt?
Voorbeeld transcript (Interviewee 3)

Start opname Introductie:

ik: Nou jullie zijn dus met zijn tweetjes

M: Ja

Ik: hebben jullie nog een rolverdeling met zijn tweetjes?

M: Ja, Tijn is mijn collega/compagnon. Hij is meer de lange termijn strateeg, diegene die technische vraagstuk meestal op zich neemt en projectmanagement doet. Die zorgt dat alles op het juiste moment, bij de juiste persoon ligt.

Ik: Ik zal kort uitleggen wat het doel is: Het is eigenlijk gewoon een beetje te verkennen wat creativiteit is? Ik heb zo expres mogelijk aangepakt omdat het nogal kan uitmaken. Voor jou is misschien heel iets anders dan voor mij en zeker voor iemand die Bij jones lang lasalle. terwijl die ook een bepaalde mate van creativiteit kan laten zien. Daarom probeer ik zoveel mogelijk mensen te interviewen om te kijken wat daar uitkomt.

Start interview

Ik: Wat versta jij onder creativiteit?

M: Ja dat is een lastige. Wat ik denk: Dat zit hem al in het woord. Creativiteit, crea, creëren. Ik denk dat als je instaat bent om dingen te creëren ben je voor mij per definitie creatief. Want dan moet je namelijk al oplossingen bedenken, als het nou al een indeling van een ruimte. Zoals bij jullie (duidelijkebeinvloed). Dan moet je iets creëren en
daarvoor moet je creatief zijn. In mijn optiek is iedereen creatief maar zijn mensen die het durven delen, die het durven ten toon te stellen of durven te schreeuwen zijn mensen die wij als kunstenaars zien. Een fietsenmaker moet ook creatief zijn om het het oplossen van zijn problemen. Die komt ook op dingen die ik van ze lang zal ze leven niet had kunnen verzinnen. Dus dat is voor mij een beetje creativiteit.

Ik: En wat voor rol speelt creativiteit binnen jullie bedrijf?

M: Dat is ons onderscheidend vermogen. Dat is voor ons heel belangrijk. Dat is waarbij we ons kunnen onderscheiden van andere communicate/branding bureau's in en rondom Amsterdam, het is dat wij het van een andere invalshoek doen en zien. Dat is voor ons heel belangrijk.

Ik: Zou je die invalshoek kunnen beschrijven, die dan anders is?

M: Wij proberen alles wel op een andere manier te benaderen dan meestal...kijk als jij een bedrijf hebt en het is jouw bedrijf, je werkt al 10 jaar dan kijk je er met een bepaalde invalshoek naar. Dat is ook het verhaal dat een klant meegeeft; "Yo, dit is waar ik voor sta, dit hier is wat ik wil leveren, dit is hoe ik gezien wil worden"en dan proberen wij juist "kijk dit is hoe jij (klant) het zelf ziet". Kijken of wij een haakje of oogje, weetje wel, van een ander hoekje kijken of we jouw wens of vraag kunnen vervullen of beantwoorden door niet te doen wat je al 10 jaar doet maar kijken of we dat van een ander invalshoek kunnen doen.

Ik: Ja. Als je kijkt naar je eigen creatief proces, wat is dan het verschil tussen niet creatief en..?

M: Ik denk dat..binnen ons werkvak, dat het niet creatieve : naar cijfers kijken, kijken waar zit het meeste lead generating content, wat is jouw low hanging fruit, wat eigenlijk voor het rationele gaan, voor het handliggende gaan want je wilt snel resultaat. Je wilt
progressie ook boeken voor de klant, je wilt dat die zijn geld terug verdient die in jou geïnvesteerd heeft. Wat wij doen is om te proberen juist een stap verder te kijken: wat als we dit proberen. Ik zeg niet dat het altijd lukt of dat het resultaat daar is maar wat wel altijd bij ons het geval is, is dat de klant echt trots is op wat wij hebben gemaakt. Of dat nou echt korte termijn het gewenste resultaat is. Soms wel soms niet.

Ik: Dat opzoek gaan naar iets anders, hoe ziet dat er uit?

M: Dat is, je gaat een gesprek in [..met de klant], daar trek je conclusies uit. Dan is Stijn vaak degene die een strategie bepaalt: ok, de wens van de klant is.... dat kunnen we bereiken door die doelgroep aan te spreken of dat kunnen we bereiken hier op te focussen. Binnen dit kader ben ik vrij om te verzinnen. dat kunnen dingen zijn die heel uit een lopen. Een beetje abstract he?

Ik: Nee dat is goed

M: Kijk, een heel simple voorbeeldje: Vorig jaar een man en die had een dierenspeciaalzaak en die wilde niet zijn eigen klanten bereiken maar mensen daarbuiten. Hij wist niet precies wat die wilde en dan maken we een 1 april grap voor hem. En of die daar extra sales meeheeft dat hebben wij niet gemeten hoor, dat heeft we gedaan maar die man het aws iets dat buiten zijn comfortzone zit. Hij neemt zichzelf heel serieus. Hij neemt zich zelf in de zeik. Dat dei achteraf ontzettend blij is. Het is toch anders dan een advertentie die die al 10 jaar doet en een bannertje online die die al 5 jaar doet. Het geldt ook voor Tasties, de tshirts. Voor elke Tshirt die wij verkopen doneren wij 10, nee, 20 lunchpakketjes aan kinderen die naar school gaan. Normaliter hang je een heel zielig verhaal op. Fuck dat, dat doen wij niet. Wij gaan gewoon met een dikke knipoog en veel plezier gaan wij rellen en als je dan toevallig dan ook iets doneert aan schoolgaande kinderen in risicogebieden dat is dan bijzaak. Wij proberen mensen er wel bewust van te maken maar dat is niet hetgene dat wij gaan schreeuwen....mischien bedoel ik dat. Dat wij de boodschap wel altijd meenemen maar het is een soort bijzaak waardoor het des te meer overkomt.
IK: Ja....Hoe doorloop je dat proces? Van: de klant komt bij je to het laatste idee. Zou je dat kunnen omschrijven?

M: Ja, kijk..het voortraject tot dat je echt een idee hebt. Dat kan binnen een uur gebeurd zijn en soms ben ik gewoon 2 weken er zoet mee. Dat betekent niet dat ik er 2 weken mee aan de slag ben maar het zit in ieder geval in mijn achterhoofd. Maakt niet uit waar ik mee bezig ben, maar dan denk ik kut. Ik moet nog iets verzinnen voor..Zodra je dus iets hebt ga je dat vormgeven of visualiseren Dat doe je in eerste instantie of dat doe wij met fotos of bestaand beeld, dan maken we een moveboard of je maakt een hele slipte presentatie. Als mensen het voorzich zien is het toch krachtiger dan wanneer je alleen mijn woorden hebt of die van Stijn. Of dat nou een nieuwe huisstijl is, logo of nieuwe campagne. Probeer het altijd te visualiseren. Dan gaan we kletsen met de klant, maken we altijd een soort van [...feedback]. Het is nooit...het is altijd een soort samenwerking....het is niet dat wij wat voor jou verzinnen dan iets teruggooien. Kom met je input. Of we er iets meedoen is een tweede maar het is wel heel belangrijk dat die klant zich ook heel belangrijk voelt. Daarna komt een debriefing over de mail. Als daar akkoord over is gegeven gaan we aan de slag. Het uitwerken vind ik het leukste...Nee....het denken vind ik het leukste...het uitwerken vind ik ook tof.

Ik: Is het uitwerken nog creatief?

M; ja want je komt altijd...het wordt nooit zoals je het echt in je hoofd hebt. Je loopt altijd tegen dingen aan. Stel je voor: We gaan deze campagne maken of we gaan de ze website maken. A long the road kom je achter dat deze kleurstelling niet werkt voor alle paginas. Dit logo kan niet overal toegepas worden. of campagne..dit lukt niet binnen dit tijdsbestek..Of dit werkt niet...en dit werkt niet...ook sit is een creatief proces, ja.

Ik: soms heb je binnen een uur een idee, soms wat langer. Hoe probeer je dit te sturen? Wat doe je als je niet meteen een idee hebt?
M: Dan probeer ik het te vergeten. Dan ga ik naar de film, dan ga ik wandelen. Ik ga...ik pieker dan wel veel in bed...maar als het niet komt dan komt het niet....Je kan het wel forceren, dat heb ik in het begin gedaan, dat je het echt gaat forceren. Maar op een gegeven moment ben je aan het blindstaren. Dat is ook gewoon ervaring, gewoon later rusten, laten sudderen en some komt Tijn met iets dan. Uit een overwachte hoek "He heb je hier al aangedacht". Nee. potverdikkeie, nee man.

Ik: Wat doen de omstandigheden. Beperken ze of stimuleren ze juist?

M: Bij het uitwerken, beperken. Dan moet ik echt in een tunnel zitten. Als ik nog in het creatieproces zit, het denk proces, in het dromenproces, dan is het wel fijn als je veel prikkels hebt. Het gekke is dat alledaagse situaties of kleine dingetjes je op een idee brengen dat is echt heel tof.

Ik: Zou je voorbeelden kunnen geven aan de hand van een project die je gedaan hebt?

M: Das een goede...[Mourad denkt na]...ik kan wel 2 voorbeelden geven. Bijvoorbeeld Tasties, daarmee zijn we op het idee gekomen we zaten in het restaurant en we zagen mensen allemaal fotos maken van hun eten. En daar ga je over grappen en op een gegeven moment heb je een idee. Dat is, maar dat is een vrij idee, dat is anders dan wanneer je een opdracht kijgt. Ik moest laatst...we hadden laatst dat dierenspeciaalzaak gedaan. Zogenaamd iemand anders wilde de grootste dierenspeciaal zaak van europa bouwen. Hij zocht nog een naam. En doen ben ik gewoon gaan chillen en toen ben ik uiteindelijk naar Artis gegeaan. En toen liep ik daar in de vlindertuin en dat was voor mij een soort park. Toen dacht ik: AHH...Noahs Park, dat wordt de naam. Maar dat is dus, dan heb ik het opgezocht. Maar ik sta ook wel is bij de stoplicht en dan zie ik iemand vallen...Grappig daar moeten we iets mee doen.

Ik: Ja, dan weet je nog niet precies voor wat je het moet doen maar het is gewoon iets......
M: Ja, jazeker. Zo'n situatie moet je meenemen dat is gewoon tof, moet je niet vergeten, moet je in je achterhoofd houden. Het komt altijd wel weer terug.

Ik: Maar dat is het interessante: wanneer komt 'het' terug. Dat is dus een prikkel, wanneer komt dat weer terug?

M: Ja, dat is lastig. Tijn en ik noemen dat koelkastideeën. Als er iets tofs is gebeurd schrijf je het op en dan vertel ik het hem en dan lachen we er over. En dan moeten we een campagne verzinnen, "He, weet je nog van toen". Dan moet ik opzoek gaan naar me notities. Nog een voorbeeld: De gast van de TONTONclub. Ik weet niet of je dat kent?

Ik: Nee

M: Hij wordt gezien als een arcadehall maar dat is hij niet. Hij zit op de wallen en nu op de westergas. Daar heeft hij allemaal oude games, arcadekasten, flipperkasten, hij maakt ook zelf installaties. Hij zei ook laatst kan je iets voor me verzinnen. Toen had ik nog zo'n koelkast idee. We zagen namelijk ooit iemand gewicht heffen en toen werd die heel knullig opgetild door een vriend van nou ik til jou en je gewicht op, weet je wel? Toen had ik dat in me hoofd en heb ik ook met Tijn gedeeld: "Haha echt grappig, ik zag iemand iemand tillen die gewichten aan het tillen was". En dan zit ik met zo'n gast van TONTON en die wilt een heel groot evenement organiseren en dat heet TONTONXL en dan moest ik daar meteen aan denken, dan ga je het uitwerken, dan ga je het tweeken, dan kom je op een filmpje met iemand die gewichten heft en dat deed op een gegeven moment uit het scherm getilt wordt en dan hoor je een voiceover "because bigger is better: TONTONXL". Dan heb je meteen, he dat is vet. En van daar moet je opnieuw beginnen en dan heb je in ieder geval een uitgangspositie.

Ik: Ja, en dat uitwerken, vindt dat meestal hier plaats?

Ik: Kijkend naar de omgeving, zijn er dan ook beperkende factoren? Dat moet ik juist niet hebben?....bijvoorbeeld geluidsoverlast of juist stimulatie?

M: Met woori weer vind ik het heel fijn om in de tuin te zitten omdat je dan soort alleen bent maar bij uitdenken vind ik prikkels fijn maar niet prikkels van directe omgeving. Als ik zo uit het raam kijk dan kan ik daar in verdwalen vind ik dat heel fijn. Maar als ik bijvoorbeeld: Ik zat hier en dan komen mensen hele tijd naar binnen en naar buiten. Dan wordt je wel iedere keer onderbroken en dat is wel erg beperkend. Maar de reguliere prikkels stimuleren mij, maar collegas of een koffiezet apparaat kan me net uit de focus halen.

R: Je noemt net het koelkast effect. Die sla je echt op. Zijn er soms ook in die twee weken dingen die je specifiek doet om te prikkelen?

M: Ja, nee. Dat is meer voor de leuk. Laatst moest ik een script maken voor een drone evenement. Daar ging het alleen over dronetechnologie en daar moest een bredere script voor komen, promotie. Dan ben ik wel naar de nieuwe Marvel film gegaan, weet je wel? [te veel achtergrond geluid] maar andere kant zaten er 2 of 3 dingen waar je ook aan dacht en dan krijg je een soort bevestiging.

R: Euhm....even denken [storing collega, koffie zetten]. Behalve Tijn zijn er ook andere mensen die je opzoekt?

M: Ja, ja, ja. Colleaga's. Dat is zeker fijn als je jier op de werkvloer zit waar meedere mensen zit. Hoe kijk je hier naar of wat vind je hier van of niet? En dan een eerste reactie. Of je verklaart hun voor gek of je bent down..of ze geven feedback waar je iets aan hebt.
Dus dat is wel tof. Je hebt wel klankborden nodig. Je kan dingen wel over de schutting gooien maar ik vind het altijd wel fijn om het even tegen mensen aan te houden.

R: Doe je dat altijd?

M: Soms weet je van dit is goed. Dat voel je dan aan alles. Dan wil je meer uit enthousiasme dan dat je het doet om feedback te krijgen.

R: Meten jullie je creativiteit?

M: Meestal hoor je het aan de reactie van de klant of het goed is. Maar meestal moeten we er zelf achter staan, we moeten het of heel vet vinden, of heel grappig, of heel mooi vinden. Dat is misschien wel het allerbelangrijkste dan gaat de klant er veel in mee. Mensen weet vaak niet wat ze willen. "Ja, ik wil meer chocoladerepen verkopen". dat is zijn doel maar wat die eigenlijk zegt "er moeten meer mensen mijn naam kennen". "Ik ben niet bekend genoeg".

R: Ik denk dat ik door mijn vragen heen ben. Wil je zelf nog iets toevoegen?

M: Ik denk dat je creativiteit wel kan stimuleren. Que werkomgeving. Ik heb hiervoor bij een corporate bedrijf gezeten: grijs vloerbekleding, van die witte platen op de plafond, TL-verlichting, uitzicht op een industrieterrein, daar leefde het ook niet, er was geen energie, je kon de prikkels niet opzoeken. En dat merk je hier (nu is het hier echt rommelig), veel daglicht, of je gaat even naar buiten of naar de tuin. Hier.....en dat is denk ik.....creativiteit is dat je behalve dat je dingen creeert dat je dingen ook anders doet dan mensen verwachten. Dan ben je opeens heel creatief, "O, kijk hoe die dat heeft opgelost of kijk hoe die dat heeft gemaakt, daar was ik zelf nooit op gekomen" en dat doe je dus als je moet nadenken over een nieuwe tandenborstel, als je zit op kantoor dan krijg je die nieuwe invalshoeken nooit of als je dan hier zit en je er gebeurt iets of straat of je ziet iets iemand iets doen of je loopt een winkel binnen en je ziet iets gek. Dus als je
dat element dus koppelt aan jou probleemstelling en als je daar mee je oplossing vindt
dan doe je het vanuit een ander invalshoek. Dan kom je vaak wel tot hele toff
oplossingen.
Creativiteit is......

Er moet toch vaak een creatieve oplossing komen om iets gedaan te krijgen

Dingen die uiten de band springen….waar je echt over moet nadenken

Je echt goed over na moet denken…..Ergens doorheen komen

En stiekem, als ik terug kijk wanneer ik de grootste slagen heb gemaakt is dat niet op meetings geweest of dagen dat ik achter mijn bureau heb gezeten. Dat doe mij denken dat de laatste 80% dat ik dat werk bijna nooit doe wanneer ik binnen de werkplekstramien zit. Het zijn mensen die het heel goed kunnen maar die hebben vaak
geen creatieve rol, die doen meer uitvoerend werk. Die hebben veel minder te maken maak met veel onduidelijkheden, veel variablelen, complexe analyse, veel minder keuzes. En die mensen zitten het liefst achter hun bureau…Het lukt me niet…Zoe het wel willen maar dan ga ik iets anders doen..

Out of the box denken…kijken naar de andere oplossing dan de standaardoplossing
Het is veel zelf bedanken maar ook voortborduren op bestaande dingen.

Creativiteit, crea, creeren. Ik denk dat als je instaat bent om dingen te creeren ben je voor mij per definitie creatief. Want dan moet je namelijk al oplossingen bedenken In mijn optiek is iedereen creatief maar zijn mensen die het durven delen, die het durven ten toon te stellen of durven te schreeuwen zijn mensen die wij als kunstenaars zien. Een fietsenmaker moet ook creatief zijn om het het oplossen van zijn problemen. Die komt ook op dingen die ik van ze lang zal ze leven niet had kunnen verzinnen.
Het uitwerken vind ik het leukste…Nee….het denken vind ik het leukste…het uitwerken vind ik ook tof.
Hier…..en dat is denk ik…..creativiteit is dat je behalve dat je dingen creert dat je dingen ook anders doet dan mensen verwachten. Dan ben je opeens heel creatief, "O, kijk hoe die dat heeft opgelost of kijk hoe die dat heeft gemaakt, daar was ik zelf nooit op gekomen" en dat doe je dus als je moet nadenken over een nieuwe tandenborstel, als je zit op kantoor dan krijg je die nieuwe invalshoeken nooit of als je dan hier zit en je er gebeurt iets of straat of je ziet iets iemand iets doen of je loopt een winkel binnen en je ziet iets gek. Dus als je dat element dus koppelt aan jou probleemstelling en als je daar mee je oplossing vindt dan doe je het vanuit een ander invalshoek. Dan kom je vaak wel tot hele toff oplossingen.

• Gevoel

“Jezelf senang voelen in een proces of omgeving en daarmee tot nieuwe ontwikkelingen komen….je zelf goed voelen en vrij om dingen te ontwikkelen”
Je moet je senang voelen. Het is niet iets wat je even oproept…
Wanneer denk je het beste na? Als je ontspannen bent...Als je gewoon chill bent
...heel veel gebeurd (keuzes waar je gaat zitten, zelf toegevoegd) gewoon op gevoel of jee je lekker (daarbij voelt).”dat ziet er cool uit”. ...Een ruimte bepaalt ook heel vaak een sfeer. Los van de mensen die er in lopen, maar dat vind ik wel heel belangrijk....Als de sfeer goed is

- Dagelijkse creativiteit

Maar ik ben in mijn dagelijkse werk toch redelijk vaak creatief

Dat kan binnen een uur gebeurd zijn en soms ben ik gewoon 2 weken er zoet mee. Dat betekent niet dat ik er 2 weken mee aan de slag ben maar het zit in ieder geval in mijn achterhoofd.

- Actief inzetten (bewust gebruik)

Dus ik gebruik mijn strategie, creativiteit vervolgens weer gestructureerd te kunnen werken

Je moet je senang voelen.. Het is niet iets wat je even oproept...

- Emphasis on Novelty

Ideen....Je zoekt vaak een kern idee om een campagne if activatie of social content uit voort te brengen. En dat is de essentie van wat wij doen. Als ik het heel sec beschrijven dan zijn we een soort ideeefabriek.....het dekt de ladin totaal niet...het dekt de lading toch wel..

Wat wij doen is om te proberen juist een stap verder te kijken: wat als we dit proberen. Ik zeg niet dat het altijd lukt of dat het resultaat daar is maar wat wel altijd bij ons het geval is, is dat de klant echt trots is op wat wij hebben gemaakt. Of dat nou echt korte termijn het gewenste resultaat is. Soms wel soms niet.

- Emphasis on Usefulness

Wat ik geen creativiteit vind, Wat ik heel veel heb gemerkt bij vorige werkgevers is lullen over dingen, gewoon heel veel brainstormen en oudehoeren..en vervolgens niks leveren
Zorg er voor dat er iets geshipt kan worden, iets met een einddatum

"the proof is in the pudding", creativiteit is bij Uber at daadwerkelijk gedaan wordt

Waar de grootste winst zit is in de daadwerkelijk uitvoering. Verzinnen is niet het moeilijkst... Van idee naar uitvoering dat is echte creativiteit

Ik heb nu een paar keer met soort bedrijven gewerkt en zij denken dat 80% het idee is en ik weet dat het bij ons 5% is.

Een idee zelf is niks. Er zijn ideeën zat...we krijgen 100 mailtjes per dag met ideeën van gebruikers...leuke marketing ideeën...ideeën heeft werkelijk iedereen. Ik vind het dan te makkelijk om te zeggen dat het creatief is. Het uitwerken van het idee. Dat is waar de grootste struggle zit

Degene die ik ken bij het bedrijf die de beste performers zijn, zijn de mensen die niet achter een bureau zitten...Daar heb ik het stiekem van afgekeken. Het zijn de mensen die niet passen in een stamien qua werk of werkplek.

Verschil creativiteit en niet-creatief werk

Even naast het normale leven sta, wat ik normaal in de dagelijkse activiteiten doe...dan ga ik er naast staan: Hoe gaan we dit aanpakken?

10% creatief, 90% niet creatief

Sterker nog creatieve dingen komen tussendoor...Soms komt het creatieve bij een brainstorm of whatever...maar de uitwerking daarvan wat eigenlijk non-creatief werk is... Soms komt het creatiefste bij een brainstorm of whatever. Als je er over nadenkt...het ligt er een beetje aan hoe je creativiteit uitlegt...Het zijn eiegenlijke hele non creatieve klusjes maar die duizend klusjes aan elkaar geplakt maakt het een heel creatief proces

Je hoeft niet tekstueel echt dingen op te zoeken. Als ik echt tekstueel contracten moet bekijken...dan werk ik een dag in de week thuis...Als het stil is dan kan ik orima mijn
normale werk doen, het hele geconcentreerde werk die ik het liefst thuis…Het creatieve, designen, ontwerpen in een rommelige, runoerige omgeving.

Dat zijn contractuele zaken….stampwerk op papier…legal stuff…Zelfs in het aansturen van een team of verhuizing doen zit altijd wel iets creatief…ik moet toch flexibel zijn met nieuwe dingen komen

Ik denk dat..binnen ons werkvlak, dat het niet creatieve : naar cijfers kijken, kijken waar zit het meeste lead generating content, wat is jouw low hanging fruit, wat eigenlijk voor het rationele gaan, voor het handliggende gaan want je wilt snel resultaat. Je wilt progressie ook boeken voor de klant, , je wilt dat die zijn geld terug verdient die in jou geïnvesteerd heeft.

: Bij het uitwerken, beperken. Dan moet ik echt in een tunnel zitten. Als ik nog in het creatieproces zit, het denk proces, in het dromenproces, dan is het wel fijn als je veel prikkels hebt. Het gekke is dat alledaagse situaties of kleine dingetjes je op een idee brengen dat is echt heel tof.

We hebben altijd een hoop administratieve dingen…Je kan met financiën creatief zijn. Hoe kan ik het zo presenteren dat het meer inzicht geeft….Administratief: het al invullen van wat er al is gebeurd… Maar verder zie ik overal een creatieve kant in, tot en met het creëren van contracten aan toe.

Doel. Wanneer heb je het nodig?

- Verbeteren van (intern) proces

Nieuwe modellen moeten maken of hoe wij met ons vastgoed omgaan of als ik moet kijken he onze kantoren tot stand komen

..beter en slimmer doen

..iets wat nog niet gedaan is of wat geoptimaliseerd moet worden.
Hoe kunnen we er voor zorgen dat hier slimmer mee omgegaan wordt. Dus ik zie dat creativiteit veel zit in process, veel meer in how we iets dan dan wat we doen.

wat minder wordt gevraagd is mijn creatieve kant..het zit met name in concepten, kleine dingetjes die de dingen van een bol.com’er of mijzelf makkelijke maken, of met iets anders, verrassender…dat mensen geïnspireerd raken.

- Product/ service

Dat is ons onderscheidend vermogen. Dat is voor ons heel belangrijk. Dat is waarom we ons kunnen onderscheiden van andere communicatie/branding bureautjes in en rondom Amsterdam, het is dat wij het van een andere invalshoek doen en zien.

Creatief proces

- Initiatief

Ik heb hier nu een jaar gewerkt, ik weet nu hoe de projecten draaien

Bij mij begon het bij een knelpunt: te veel projecten tegelijkertijd

We krijgen per mail aanvragen van klanten binnen. Dan gaan we eerst meeten

Dat is om meestal een specifiek probleem op te lossen…ik zie dat we steeds vaker focussen op verbeteringen in plaats van met een “blank slate” iets te verzinnen.

Dat is, je gaat een gesprek in [..met de klant], daar trek je conclusies uit. Dan is Stijn vaak degene die een strategie bepaalt: ok, de wens van de klant is....

Bijvoorbeeld Tasties, daarmee zijn we op het idee gekomen we zaten in het restaurant en we zagen mensen allemaal fotos maken van hun eten. En daar ga je over grappen en op een gegeven moment heb je een idee. Dat is, maar dat is een vrij idee, dat is anders dan wanneer je een opdracht krijgt.
• Voorbereiding

Daar gaat een stukje onderzoek aan vooraf

Dat is vrij standaard..Aan de hand hand van de behoefte en al die informatie die ik om me heen verzamel

(samen) Dan gaat er een paar meetings aan vooraf…boeken een meeting ruimte….of we doen het achter ons bureau..dan splitsen we vaak het werk op wie wat doet…

Vooral door praten met andere bedrijven. Of door naar events te gaan workshops, nieuwe ideeën op doen. Er zijn veel dingen die mensen al bedacht hebben en daar kan je wel op voort borduren. (genaration…) het is toch wel de plek waar je zit…Ik zou graag tussen de mensen bij zo’n plaza gaan zitten waar het heel druk is. Daar kan i kheel fijn werken omdat het daar heel druk is.

• Genereren
  o Incubatie & inzicht

Hoe doe ik dat? Dat kan met een fles pils op de bank thuis zijn in het weekend en dat ik in een keer denk “AHH, misschien moet ik dit doen”

…de best ideeën bij me opkomen als ik een vliegtuig zit of in een Starbucks ben of waar dan ook. Als er maar net genoeg reuring om me heen is, waar ik niet wordt afgeleid. Er gebeurgd genoeg aar er wordt niks van je gevraagd.

Maar zelden tot nooit zijn er problemen dam mijn project helemaal vastloopt. Altijd zijn er sidelines..Er is altijd genoeg te doen…

..of we hebben een afspraak gemaakt met een mark en dan sparkt er iets in je hoofd…

Een stukje voor je zelf nadenken…in je eentje brainstormen…dat is wel heel belangrijk voor hoe je een brainstorm in gaat..
knelpunt) En dan zit je hoofd vol met zoveel dingen, denk richtingen, ideeen input van anderen, vanuit een brainstorm en dan is soms goed om even uit te stappen

(knelpunt) Dan ga je echt weg van je werkplek en lopen. Het helpt mij heel erg uit de omgeving te stappen

: Dan probeer ik het te vergeten. Dan ga ik naar de film, dan ga ik wandelen. Ik ga....ik pieker dan wel veel in bed...maar als het niet komt dan komt het niet....Je kan het wel forceren, dat heb ik in het begin gedaan, dat je het echt gaat forceren. Maar op een gegeven moment ben je aan het blindstaren. Dat is ook gewoon ervaring, gewoon later rusten, laten sudderen en soms komt Stijn met iets dan

Meestal hier, soms in bed. Voorheen vaak in bed sochtends. Je gaat met die gedachte in bed, je gaat slapen, je wordt waker en wat blijft hangen ga je uitwerken.

  - Actieve creatie/incubatie

Ik zoek dan meestal een plek op voor een paar uur, waar ik apart ga zitten..in de kantine, of een van de klein booths of ik boek een teamruimte…

Dan is het gewoon klooien een paar uur lang . Ideen opschrijven…Teksten schrijven…Met andere schiet dat niet op

  - Evaluatie plus refinement

Dan vervolgens de laatste stap, waar ik me nu in bezit.. is de testfase. Ik weet dat het kan werken. Kleinschalig, duurt ongeveer een maand. Dan kan ik zien of het ook werkt voordat ik et uitrol naar de rest toe.

..Soms in de ideefase (heel creatief proces) voordat je te veel tijd in stopt. Even sparren of dit werkt

Zorgen dat ik met mijn team een uurtje bij elkaar kom tot de mal geschreven is
Daarna zou ik het graag bij anderen willen toetsen, ideeën opgooien en om te kijken hoe mensen reageren

- Iteratief

Verder gaan we zoeken naar de grote gedachte, dat noemen we de ‘human insight’. Wat is et menselijke inzicht wat we boven deze campagne houden. Daarbinnen gaan we brainstormen om het veder in te vullen.

ja want je komt altijd...het wordt nooit zoals je het echt in je hoofd hebt. Je loopt altijd tegen dingen aan.

**Flow**

- Challenge – controlled stimuli

Er gebeurd genoeg aar er wordt niks van je gevraagd. Je komt echt in de zone, of het nou emails zijn of veel moet doen. Of je echt bezig bent om nieuwe systemen op te zetten

Het is voor mij belangrijk dat er genoeg beweging is in de omgeving, misschien een muziekje opzetten. Dat helpt mij echt om in de **flow** te raken

Dus wanneer ik echt wil werken, wanneer ik weet dat ik in de **zone** terecht moet komen dan moet ik een pek vinden waar ik dat ongeïnterrumpeerd kan doen

Ruimte krijgen om free flow te laten gaan, omdat als je langer nadenkt merk je dat je tot meer ideeën komt…dat ik tijd en rust in mijn hoofd krijg om überhaupt over iets na te denken

**Benodigdheden/omstandigheden**

..Het heeft te maken met veel dingen als je in een donker hol zit zonder licht, geen kleuren, geen muziek…en je wordt geacht productief en creatief te zijn…dat gaat niet.

- **Attentie**

Daar gaat een stukje onderzoek aan vooraf, dus daar heb je een stukje focus voor nodig.
Onafgebroken kunnen focussen. Dat is voor mij belangrijk, op wat voor manier dan ook.

De split die ik vaker zie is dat ik niet meer achter mijn bureau zit, bij mijn team,…dat ik vaak wordt onderbroken…

Het is hier fair game, continu 8 uur per dag meeten mensen…Dus meestal ga ik apart zitten voor de rust. Hoe moeilijker de plek te vinden hoe beter

Ruimte krijgen om free flow te laten gaan..omdat aks je langer nadenkt merk je dat je tot meer ideeën komt …dat ik die tijd en rust in mijn hoofd krijg om überhaupt over iets na te denken

Met woor weer vind ik het heel fijn om in de tuin te zitten omdat je dan soort alleen bent maar bij uitdenken vind ik prikkels fijn maar niet prikkels van directe omgeving. Als ik zo uit het raam kijk dan kan ik daar in verdwalen vind ik dat heel fijn. Maar als ik bijvoorbeeld: Ik zat hier en dan komen mensen hele tijd naar binnen en naar buiten. Dan wordt je wel iedere keer onderbroken en dat is wel erg beperkend. Maar de reguliere prikkels stimuleren mij, maar collegas of een koffiezet apparaat kan me net uit de focus halen.

- Andere omgeving / perspectief

Ik heb zelf wel een andere omgeving nodig. Ik wil niet altijd achter me bureau zitten. Af en toe moet ik het los laten en ergens anders naar toe gaan en daar vervolgens door te gaan..

Als ik me moet concentreren en ik moet ander werk doen dan ga ik op een bank zitten. We hebben een paar van die Chestfield banken, dan is het voetjes erop en dan ga ik een beetje typen.

Ik merk dat ik dan even de switch nodig heb heb om ergens anders te gaan zitten…Ik ga dan meestal in de kantine zitten of in een hoekje achterin, of een bank hier of een andere verdieping op een bank maar nooit achter een bureau.
Ik vind het stiekem wel relaxt... als het moet, weet ik veel, koffie moet halen ergens naar toe moet lopen. Ik vind het prettig als het allemaal niet te dichtbij is. Want als ik kwerkelijk een keukentje binnen 5 meter heb kies ik er altijd voor om eventjes te lopen, om even ander perspectief te krijgen.

Uhmm ik vind het belangrijk dat werkplekken zijn waar ik op een andere manier...als ik kalleen maar achter mijn bureau zit...dat ik op een bankje kan gaan zitten, op een bank kan chillen of gewoon andere stoelen of op de grond desnoods.

Ik vind het heel relaxt dat we allemaal op laptops werken. Dat ik die ieder moment kan uitpluggen en dan anders kan gaan zitten.

Misschien is het wel een onbewuste ding...Ik moet er even uit...bij wijze even een blokje om. Die gedachten die je dan hebt laat je dan even daar..Er komen weer nieuwe gedachten..Je ziet nieuwe dingen om je heen. Je krijgt nieuwe prikkel

Het helpt mij heel erg uit de omgeving te stappen en aan de wandel te gaan.. desnoods even iets anders doen...een belletje doen...een uurtje later weer naar je werkplek en kijken hoe het gaat. Mocht het echt niet lukken dan met je het niet meer doen en de volgende dag er aan beginnen. Wandelen werkt wel echt..

Wat ik leuk vind is om op verschillende plekken op een pand te zijn, waar je steeds weer een ander uitzicht (hebt) naar het gras, de tuin, de lucht of omgeving. De externe omgeving vind ik belangrijk.

Onze woonkamers / pantries op elke verdieping hebben we verschillende tafels stoelen die hoog en laag staan. Dat vind ik wel tof dat je steeds in iets andere omgeving zit

- Keuze – Vrijheid

Als ik ergens heen wil gaan, of ergens anders wil werken dat het gewoon kan. Op het ene moment werkt je bureau gewoon beter en ander moment de kantine
..En je hebt gewoon veel plekjes.. variërende plekjes …Dit is bijvoorbeeld een hele andere plek dan wanneer we op de bank gaan zitten..twee chesterfieldjes over elkaar…dat ik ook weer een hele andere setting…daar achter hebben we een ruimte waar je iets visueels kan dien, weer een hele andee ruimte

Je ei kwijt kunnen binnen een werkplek, dat vind ik creativiteit.. Rollen papier, lekker schetsen..(letterlijk je creativiteit kwijt kunnen

Creativiteit…) De ruimte krijgen om je eigen invloed te hebben op dingen, je eeeigen denkbeelden tot uitvoer brengen, de tijd krijgen om uberhauptover dingen na te denken

Ook een goeie ruimte hebben..niet boven op elkaar. Wij hebben gemerkt dat het belangrijk is dat mensen makkelijk kunnen rondlopen….. Dus vanddar dat onze workshopsspaces zijn verandert met hoge krukken en tafels ipv stoelen Zodat mensen niet de neiging krijgen om te zitten en te blijven zitten… Wat we ook doen, project ruimtes. Dat zijn ruimtes waar we mensen voor een langere tijd aan een project laten werken… Zodat de content voor een langere tijd aan de muur kan blijven hangen

- Controle – privacy

..Wat er bij komt is dat ik het fijn vind als mensen niet bij me op het scherm kunnen meekijken..Vaak als collegas iets zien aan waar ik mee bezig ben dan is het vaak”he cool dt je jier mee nezig ben, ik heb hier ook aan gewerkt”.

(Afstand blijf belangrijk…Zelfs bij het tegen aan lopen van een knelpunt (Ronnie)… Of ik chat, we hebben een intern chatsysteem, ik stuur die persoon een bericht of een mailtje. Ik zoek niet een actieve manier van communicatie…

Ik vind het wel prettig dat ik een eigen bureau hebt..ik heb alleen een laptop en misschien een notitieboekje en wat andere dingen…maar ik vind het toch prettig dat ik een bureau heb waar ik terug naar toe kan komen….

- Fysieke Activiteiten
Ik vind het stiekem wel relaxt.. als het moet, weet ik veel, koffie moet halen ergens naar toe moet lopen . Ik vind het prettig als het allemaal niet te dichtbij is.

Voor mij werkt onderuit gezakt in een leren stoel met een bak thee te gaan nadenken.. En dan kom ik vaak juist tot de juiste inzichten

Als i ker niet uitkom is het altijd aan het eind van de dag. Omdat je toch heel veel bezig ben met concept bedenken…en dan….je voelt het zeg maaar wel..je voelt wel wanneer je vaak met iets gaat komen…je zit er tegen aan en soms gaar. Dat kan ook een keer…wat ik dan gaan doen is ik pak me speullen en ga kickbocksen en dan ga ik de volgende ochtend weer zitten en dan ben je weer vers in de gedachten……

Je komt er uiteindelijk altijd uit….Bij mij werkt vaak sporten of mediteren…bij beide zet je je gedachten uit. Je bent alleen maar fysiek bezig. Geen tijd om na te denken over andere dingen. Of dat nou 1 uur is of 2 uur of dat je gaat slapen.

..uit de omgeving te stappen e naan de wandel te gaan.

- Individueel vs samen

..Soms in de ideefase (heel creatief proces) voordat je te veel tijd in stopt. Even sparren of dit werkt

Ik merk dat ik zelden of nooit een creatief proces zie om me heen waarbij ik dat in mijn eentje doe. Het is altijd met anderen, dan wel hier, dan wel ergens anders in de wereld.

Er zijn altijd 2 a 3 klussen waarvoor ik in de zone moet raken…en deel ervan is macro- creatief (ideeen bedenken – micro-creatief is dan al die kleine klussen, zie evrschil creatief non creatief) daar moet ik grote ideeen bedenken. Maar meestal zijn het 100‘en kleine klusjes. Planntjes schrijven en uitwerken..Juist daarvoor moet ik in de zone zijn.
Creativiteit komt nooit van een iemand… Een idee kan wel komen, een inzicht….maar een concept niet.
(na inzicht) …Daar krijg ik dan heel veel energie van… dan kan ik heel enthousiast raken van mijn ideeën en als ik dan energie heb.. dan wil ik in een ruimte zitten zoals hier en delen met anderen… Dan ga ik presenteren, vertellen, waar ik lekker energiek kan zijn, de ruimte heb….. dit is een van de kleinere ruimtes… aan de andere kant is een grote..

Het is een beetje voor je zelf nadenken en ook op rustige momenten sparren met anderen..

Ik gebruik graag sociaal media en dingen om geïnspireerd te raken„ ik vind geïnspireerd raken daar een kernwoord bij. Daarna zou ik het graag bij anderen willen toetsen.

- Fysieke elementen

Even naar buiten kunnen turen bijvoorbeeld, ik vind het fantastisch om uitzicht te hebben met natuurlijk lucht.

De omgeving is hier heel open, dat geeft je sowieso een lekker gevoel. In kleine ruimten als je daar creatief in moet zijn dan komen de muren op je af

- Binnen vs buiten

Niet vaak meer, nu is het kantoor veel groter. Voorheen waren er geen banken waar je op kon zitten of waren er te weinig meetingrooms…

- Resources

Ik vind het heel relaxt dat we allemaal op laptops werken. Dat ik die ieder moment kan uitpluggen en aan anders kan gaan zitten

Heel veel dingen aan de muur.
• Ambiance (stimulatie)

Omdat het daar heel rommelig is en rumoerig

Naast de roering en mensen opzoeken, wil ik altijd een momentje voor mezelf...

• Desk vs de rest

Ik vind het wel prettig dat ik een eigen bureau heb... ik heb alleen een laptop en misschien een notitieboekje en wat andere dingen... maar ik vind het toch prettig dat ik een bureau heb waar ik terug naar toe kan komen....

Ik was een grote voorstander van de flexplekken twerijl ik nu gewoon mijn eigen bureautje hebt en gewoon dingen er op kan gooien. Dat me werk veel makkelijker is. Ik spendeer nul tijd per dag dat ik moet nadenken over “Oh, kan ik morgen nog wel zitten... het is toch wel de plek waar je zit... Ik zou graag tussen de mensen bij zo’n plaza gaan zitten waar het heel druk is. Daar kan ik heel fijn werken omdat het daar heel rommelig en rumoerig is. Daar kan ik heel fijn werken omdat het daar heel druk is... Als je heel creatief bezig ben, dan ga ik naar de afdeling Design... daar staat de radio aan, daar kletst iedereen d e oerven van je hoofd, Heel veel dingen aan de muur.

Achter me bureau vind ik wel fijn met mijn laptop. Ik kan wel geod omgaan met de situatie waar mensen langslopen. Daar heb ik niet zo last van. Ik zoek dan niet specifieke rust op. Gewoon aan me bureau.. mijn eigen plek

• Meer dan instrumental value..

..heel veel gebeurd (keuzes waar je gaat zitten, zelf toegevoegd) gewoon op gevoel of jee je lekker (daarbij voelt).”dat ziet er cool uit”. ...Een ruimte bepaalt ook heel vaak een sfeer. Los van de mensen die er in lopen, maar dat vind ik wel heel belangrijk.... Als de sfeer goed is

Waar voel je je dan niet prettig?
Wij hebben hele grote open ruimten hierzo. (esthetic value of symbolic) Staan toffe dingen in (artefacts) Dus kunstwerkjes, grote groene aap, we hebben een raar vliegtuig hier staan…en we hebben achter een pingpong tafel staan….

Creativity as a symbol..Mijn stage heb ik toen ter tijd in New York gedaan gedaan. Elke dag moest ik in pak naar kantoor gaan. Heb er ook nog gewerkt. Maar ik vond het verschrikkelijk. Elke dag..ik vond de ruimte ook best boring…Corporate vooral….Ik denk dat 9 van de 10 creatives zou zegegn dat ze niet in de zuid-as zou willen werken…Er heerst ook wel heel weinig creativiteit…Er zit zo weinig inspirererends….

De foto (muur foto) vind ik fijn…Het is heel tastbaar..het is hoe we samenwerken. Daar kan ik me wel in vinden. Zo’’n foto geeft me veel inspiratie (het is heel tastbaar, het lijkt te verwijzen naar isymbolic value, identity)

Ik denk dat je creativiteit wel kan stimuleren. Que werkomgeving. Ik heb hiervoor bij een corporate bedrijf gezeten: grijze vloerbekleding, van die wite platen op de plafond, TL-verlichting, uitzicht op een industrieterrein, daar leefde het ook niet, er was geen energie, je kon de prikkels niet opzoeken. En dat merk je hier (nu is het hier echt rommelig), veel daglicht, of je gaat even naar buiten of naar de tuin.
Step 1: introduction

Q1 Dear participant, I am happy that you have shown interest to participate in this study. The central theme for this research is the experience of the physical environment, i.e. the workplace. There are a lot of changes going on, regarding the vision and approach on the workplace. But it is still unclear what the interaction between the physical space and user is.

About the study

This study is conducted by Ronnie Maat, student at the Technical University of Delft. The goal is to get a better insight into how and which physical elements in the work environment has an effect on the daily activities of knowledge workers.

Participation

Participation means that you take an online survey 5 times. You will receive, for 5 consecutive work days (Wednesday till Tuesday), an invite at a random moment to participate. Each time you will be asked to answer the same multiple-choice questions, regarding the space you are currently at. Besides these answering these questions, you’re asked to take a photo of the place where you reside at this moment and send it. Everything combined will not cost you more than 5 minutes. Finally, after these 5 days you are asked to answer a few questions for evaluation purposes.

If you want to participate you are asked a couple of standard question and give permission to receive the mails to take the surveys.

Instructions

· The study will start at Wednesday the 10th of February. It will end at Tuesday the 16th of February.
· It is of significant importance that you are able to receive the request to participate. This will be done by mail with a personal link to the survey for that specific day. You need access to a laptop or mobile phone. I advise you to use your mobile phone. It also easier to send the photo.
· You can send the photo to the following emailadress: belevenisvandewerkplek@gmail.com
· All spaces are appropriate for his study, as long as it is work-related. To illustrate, it could be your desk, a meeting room, the canteen, outside, a café etc.
· If you receive an invitation to participate and you’re in a meeting, it is of course understandable to wait until this meeting is over. You can still participate when the meeting has ended.

Privacy

All you information stays confidential. Your personal data will be coded and separately stored from the research data. The research data in a publication or at the TU-Delft cannot be traced back to
Participation means you give permission to gather, store and retrieve the information, handed by you. The Technical University Delft (dr. C.J. van Oel) stores your data for 5 years. After that the data will be deleted. Questions? If you have questions regarding this research you can contact me at R.Maat@student.tudelft.nl. Your permission is needed for participation. You can give your permission below this introduction. Thank you for your time, Ronnie Maat, MSc (student Management in the Built Environment)

- Yes, I would like to participate (1)
- No, I rather not (2)

Q2.1 Could you elaborate why you don't want to participate

If Kunt u aangeven waarom u li... Is Displayed, Then Skip To End of Survey

Q3.1 Name

Q11 Could you fill in your email address down below. On this email address you will receive the invitations for the surveys

Q3.2 Sex

- Man (1)
- Woman (2)

Q3.3 Age
Q3.4 Highest Education. This is based on the Dutch system. Please fill in what is the most applicable.

- Elementary (1)
- LBO / VBO / VMBO (highschool) (2)
- MAVO / HAVO / VWO (highschool) (3)
- MBO (4)
- HBO - bachelor degree (5)
- University - doctorate or master degree (6)
- Postacademic (7)

Q3.5 How many employees does your company have?

Q3.6 What is your function within the company?

- Manager (1)
- Analyst (2)
- Designer (3)
- Engineer (4)
- Consultant (5)
- Administration (6)
- Operations (7)
- Different (8) ____________________

Q9 What is the duration of your employment at this company? (in years)

Q10 How long are you active within the current job role? (in years)
Step 2: Daily survey

Q1 To what extent do you agree with the following sentences:

Q2 The environment in which I reside at the moment inhibits me in my work.
- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q3 I can make adjustments to this place to accommodate my needs.
- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q4 This place stimulates me.
- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q5 Here, I can work without a notion of time and space. Just me and the task at hand.
- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q6 This place looks very nice
- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)
Q7 This place is adequate for performing my job
- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q8 I can make adjustments within this space to make it more suitable for the task at hand.
- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q9 The physical environment helps me to have a moment for myself. To rest for a moment.
- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q10 The space in which I reside now intrigues me.
- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q11 This place helps me distinguish myself.
- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)
Q12 I can completely lose myself in the views this place has to offer.

- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q13 I have made a picture of the place in which I am residing right now and sent it to: belevenisvandewerkplek@gmail.com

- Forgot it. But I will send it now (1)
- Already did (2)
Step 3: evaluation

Evaluatie_En_Ub

Q2 Besides the interest in how you perceive the work environment I am also interested in your creativity at work. With creativity I don't mean the creation of a painting but creative thinking. In general, creativity is generating new and useful ideas, to come up with creative solutions to problems you or your organization encounters. It could be about new services, products or processing that requires improvement. Please answer the next sentences with this description of creativity in mind.

Q1 I regularly come up with new and innovative ideas at my job

- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q6 My ability to be creative is an important reflection of who I am

- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q4 In general, my creativity is an important part of my self-image

- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)
Q5 In my work I often come up with creative solutions to problems

- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q7 In my work, I often suggest new ways of performing work tasks

- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q8 My creativity is an important part of who I am

- Strongly agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q9 It was fun to participate

- Strongly agree (1)
- Somewhat agree (2)
- Somewhat disagree (3)
- Strongly disagree (4)

Q11 It cost me little time to participate

- Strongly agree (1)
- Somewhat agree (2)
- Somewhat disagree (3)
- Strongly disagree (4)
Q14 Participation hindered my work

- Strongly agree (1)
- Somewhat agree (2)
- Somewhat disagree (3)
- Strongly disagree (4)

Q12 How much time was there between receiving the invitation and filling in the survey?

- < 5min (1)
- < 15min (2)
- < 30min (3)
- < 60min (4)
- < 90min (5)
- > 90 min (6)

Q17 The goal of the research was clear

- Strongly agree (1)
- Somewhat agree (2)
- Somewhat disagree (3)
- Strongly disagree (4)

Q18 The instructions were clear

- Strongly agree (1)
- Somewhat agree (2)
- Somewhat disagree (3)
- Strongly disagree (4)

Q19 The online-survey-tool was userfriendly

- Strongly agree (1)
- Somewhat agree (2)
- Somewhat disagree (3)
- Strongly disagree (4)
Q10 I had no problem with the questions regarding creativity

- Strongly agree (1)
- Somewhat agree (2)
- Somewhat disagree (3)
- Strongly disagree (4)

Q20 If you would like to add something to the surveys that you think is of importance please use the following box