

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Management



Diploma Thesis

**The Effect of the Physical Environment of the
Workplace on Employee Productivity**

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

DIPLOMA THESIS ASSIGNMENT

Bc. Klára Kottenová

Economics and Management

Thesis title

The Effect of the Physical Environment of the Workplace on Employee Productivity

Objectives of thesis

The aim of the diploma thesis is to examine Microsoft's transition of workspaces from Open Space to Shared Desk, and to compare employee productivity before and after the change.

In order to achieve this aim, the following objectives will be accomplished:

- Define employee productivity and evaluate the factors that influence it
- Evaluate physical environment alternatives
- Understand the relationship of the physical workplace environment on the factors that influence employee productivity
- Examine working environment trends and tendencies

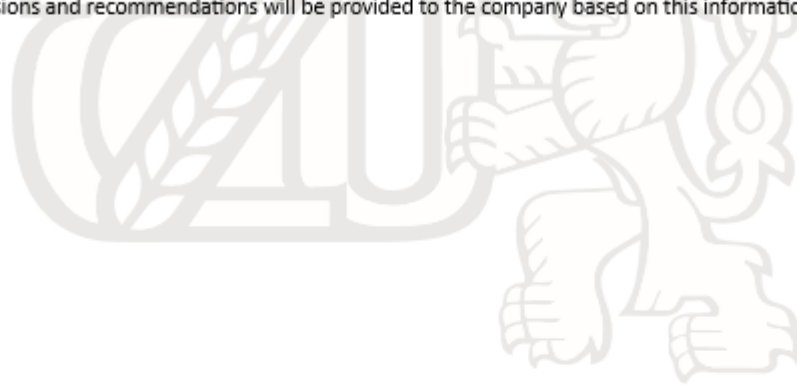
Then the physical working environment and productivity of employees at Microsoft CZ will be investigated.

Methodology

The theoretical section will utilize information from relevant Czech and foreign literature from books and from the internet. Firstly, the theoretical component will define employee productivity as well as evaluate the factors that influence it, such as job satisfaction and employee motivation. After defining such factors, this section will aim to understand the relationship of the physical workplace environment on the factors that influence employee productivity by collecting information regarding physical environment alternatives for different job types, explain roles played by the physical environment of the workplace on employees, and examine the working environment trends and tendencies nowadays. The result of this section will primarily be to define several factors ("Relevant Factors") that influence employee productivity which are in turn affected by the physical environment of the workplace. Relevant Factors will be evaluated in the practical component of the thesis.

Employee productivity before and after the workspace transition will be compared in the practical component of the diploma thesis by applying a qualitative methodology with the aim of understanding employee's and management's personal perception of employee productivity before and after the transition.

The component will be conducted by carefully elaborating a structured questionnaire to be taken by 40 employees as well as an unstructured interview with open-ended questions to be held with company management. The questionnaire and the interview will seek to obtain information regarding employee's and management's perception of the Relevant Factors (as well as employee productivity directly) before and after the workspace transition in order to gauge the effect of the workplace transition on the productivity of Microsoft's employees. The final part of the practical section will evaluate the results of the research. Conclusions and recommendations will be provided to the company based on this information.



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Keywords

Productivity, employees, workplace, design, transition, Open Space, Share Desk, Microsoft

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Marmot A, Eley J; Office Space Planning: Designing For Tomorrow's Workplace (Professional Architecture); Publisher: McGraw-Hill Professional; 1 edition (2000); ISBN-13: 978-0071341998
NBBJ (ed.): Change Design. 2009th ed. Greenway Communications, 250 p. ISBN 9780981898957
STRINGER, L.: The Leader: Workplace Strategies That Enhance Human Performance, Health and Wellness; Published in USA, (September/October 2013)

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Declaration

I declare that I have worked on my diploma thesis titled “The Effect of the Physical Environment of the Workplace on Employee Productivity” by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on

Klára Koteňová

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Vliv pracovního prostředí na produktivitu zaměstnanců

Souhrn

Tato diplomová práce se zabývá otázkou vlivu pracovního prostředí na produktivitu zaměstnanců.

První část práce definuje produktivitu zaměstnanců a způsoby jejího měření, a hodnotí faktory, které ji ovlivňují, jako je spokojenost zaměstnanců a jejich motivace. Druhá část se zabývá fyzickým pracovním prostředím, popisuje jeho vlastnosti a jednotlivé prvky, které přímo či nepřímo působí na produktivitu zaměstnanců. Třetí část zkoumá trendy a tendence pracovního prostředí dnešní doby.

Praktická část zkoumá přechod pracovního uspořádání společnosti Microsoft CZ z Open Space na Shared Desk, porovnává vliv obou pracovních uspořádání na produktivitu zaměstnanců a vyhodnocuje, který z nich je pro zaměstnance efektivnější.

V závěru práce jsou na základě výzkumu navržena doporučení pro společnost Microsoft, CZ.

Klíčová slova: Produktivita, zaměstnanci, pracovní prostředí, spokojenost, strategie, Open Space, Shared Desk, Microsoft

The Effect of the Physical Environment of the Workplace on Employee Productivity

Summary

This diploma thesis examines the effect of the physical environment of the workplace on employee productivity.

The first section of the theoretical component defines employee productivity and its detection, and evaluates the factors that influence it, such as job satisfaction and employee motivation. The second section deals with the physical working environment, and describes its features and individual attributes that directly or indirectly affect employee productivity. The third section examines working environment trends and tendencies of today.

The practical component examines Microsoft's transition of workspaces from Open Space to Shared Desk, compares the impact of both working arrangements on employees' productivity, and evaluates which one is more effective for them.

In the conclusion of this diploma thesis are proposed recommendations to Microsoft based on the research.

Key words: Productivity, employees, workplace, satisfaction, transition, strategies, Open Space, Shared Desk, Microsoft

Table of Content

1. INTRODUCTION	12
2. OBJECTIVES, METHODOLOGY AND HYPOTHESIS OF THESIS.....	13
3. THEORETICAL COMPONENT	15
3.1. Employee Productivity.....	15
Factors that Influence Employee Productivity	17
Job Satisfaction	18
Motivation.....	19
3.2. Office Development	21
3.3. Designing the Workplace.....	22
3.4. Workplace Strategies Enhancing Productivity.....	24
Building.....	24
Daylight.....	25
Access to Nature and Views	26
Noise Control.....	26
Human Factors and Ergonomics	28
Choice	29
Employee Engagement	32
Thermal Comfort and Temperature	33
Color	34
Indoor Air Quality.....	35
Crowding.....	36
3.5. Working Environment Trends and Tendencies Nowadays.....	38
Flexibility and Mobility	38
Networking.....	39
Customer Orientation.....	39
Environmentally Sustainable Workplace.....	40
4. PRACTICAL COMPONENT.....	42
4.1. Microsoft and its Founding.....	43
4.2. Microsoft s.r.o in the Czech Republic, Prague.....	44
4.3. Open Space in Microsoft, s.r.o in the Czech Republic, Prague	45
Introduction of flexibility and Mobility in Microsoft, s.r.o., Prague	50
4.4. First thought of the Shared Desk in Microsoft.....	57

Shared Desk in its Principal	59
The Process of Creating the Shared Desk in Microsoft	60
4.5. Employee Perception about the Shared Desk	61
5. CONCLUSION	74
6. RECOMMENDATIONS	76
7. REFERENCES.....	77
8. APPENDIX	82

List of Graphs

<i>Graph 1: Leesman’s Index of Happiness, related to level of sound, applied on 10 thousand employees during years 2010 – 2014</i>	<i>27</i>
<i>Graph 2: Employees’ perception of sound level at Open Space.....</i>	<i>46</i>
<i>Graph 3: The Open Space allows employees of Microsoft to have privacy when needed.....</i>	<i>47</i>
<i>Graph 4: Employees’ perception of having access to the natural light at Open Space.....</i>	<i>48</i>
<i>Graph 5: Employees satisfaction with the temperature at Open Space.....</i>	<i>49</i>
<i>Graph 6: Days per week employees of Microsoft spent at Open Space approximately.....</i>	<i>52</i>
<i>Graph 7: Hours per week employees of Microsoft spent at Open Space approximately.....</i>	<i>53</i>
<i>Graph 8: Employees’ satisfaction with the Open Space in general.....</i>	<i>54</i>
<i>Graph 9: The Open Space allows employees to collaborate with those in their immediate workgroup</i>	<i>55</i>
<i>Graph 10: The Open Space enables employees to be effective and productive in their role.....</i>	<i>56</i>
<i>Graph 11: Days per week employees of Microsoft spent at Shared Desk approximately</i>	<i>61</i>
<i>Graph 12: Hours per week employees of Microsoft spend at Shared Desk approximately.....</i>	<i>62</i>
<i>Graph 13: Employees’ perception of sound level at Shared Desk.....</i>	<i>63</i>
<i>Graph 14: Employees satisfaction with the temperature at Shared Desk.....</i>	<i>64</i>
<i>Graph 15: Employee perception of Shared Desk’s conduciveness to focus and concentration on tasks</i>	<i>66</i>
<i>Graph 16: The Shared Desk allows employees to collaborate with those in their immediate workgroup</i>	<i>67</i>
<i>Graph 17: Employees’ satisfaction with the Shared Desk in general.....</i>	<i>68</i>
<i>Graph 18: Employees’ satisfaction with interior of the Shared Desk.....</i>	<i>72</i>
<i>Graph 19: The Shared Desk enables employee to be effective and productive in their role</i>	<i>73</i>

List of Tables

<i>Table 1: Five types of employees working for Microsoft based on their work style, their definition and typical roles.....</i>	<i>58</i>
<i>Table 2: Type of work setting that employees use the most often at Shared Desk.....</i>	<i>65</i>
<i>Table 3: Concrete rating by employees of satisfaction with the current workspace, Shared Desk</i>	<i>69</i>

1. INTRODUCTION

People living in the EU spend 80 % of their lifetime indoors on average; more so, people in the US spend 90 % of their time indoors. 30 % of this time is spent at work. This strong statistic may appear disheartening at first glance, but considering the sheer amount of hours spent in the workplace helps to understand and respect the importance of the physical working environment to employees all along the chain of command. The quality of the environment in the workplace may very well influence the level of employee motivation, subsequent performance and productivity. Some factors in the workplace environment may be considered keys affecting employee engagement, productivity, morale, and comfort levels, among others, both positively and negatively. Although convenient workplace conditions are requirements for improving productivity and quality of outcomes, working conditions in many organizations may present a lack of safety, health and comfort issues such as improper lighting and ventilation, excessive noise and limited emergency exits. People working under inconvenient conditions may end up with low performance and face occupational health diseases causing high absenteeism. On the other hand, a happiness inducing workplace environment could make employees healthier, kinder, more motivated, and most importantly – more productive.

2. OBJECTIVES, METHODOLOGY AND HYPOTHESIS OF THESIS

Objectives

The aim of the diploma thesis is to examine Microsoft's transition of workspaces from Open Space to Shared Desk, and to compare employee productivity before and after the change.

In order to achieve this aim, the following objectives will be accomplished in theoretical component:

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productivity which are in turn affected by the physical environment of the workplace. Relevant Factors will be evaluated in the practical component of the thesis.

Employee productivity before and after the workspace transition will be compared in the practical component of the diploma thesis by applying a qualitative methodology with the aim of understanding employee's and management's personal perception of employee productivity before and after the transition. The component will be conducted by carefully elaborating a structured questionnaire to be taken by 40 employees as well as an unstructured interview with open-ended questions to be held with company management. The questionnaire and the interview will seek to obtain information regarding employee's and management's perception of the Relevant Factors (as well as employee productivity directly) before and after the workspace transition in order to gauge the effect of the workplace transition on the productivity of Microsoft's employees. The final part of the practical section will evaluate the results of the research. Conclusions and recommendations will be provided to the company based on this information.

Hypothesis

H ₁	Microsoft's transition of workspaces from Open Space to Shared Desk significantly raised the overall workspace satisfaction.
H ₂	Microsoft's transition increased formal and informal collaboration between employees and thus increased individual and team productivity.
H ₃	Effective use of this new workplace, Shared Desk, led to reduction of working hours spent at work, and thus lowered costs associated with the operation.

3. THEORETICAL COMPONENT

3.1. Employee Productivity

Employee productivity is considered as a key source of organizational growth and competitiveness. Sometimes it is also being referred as workforce productivity, and means the result of the efficiency of an employee or a group of employees. In other words “*being productive*” means getting more work done as a function of the time spent working, which tends to improve an organization’s bottom line (Hefernan, 2012).

There are several ways to measure employee productivity, and the simplest way is by counting inputs in relation to outputs:

$$\text{PRODUCTIVITY} = \frac{\text{OUTPUT}}{\text{INPUT}}$$

Worked hours are commonly used as inputs. Productivity is measured for:

- Short-term – daily, weekly and monthly sales reports, customer’s feedback, amount and quality of completed deliverables as a function of hours worked, etc.
- Long-term – yearly or longer sales reports, goals achieved within departments, change in executive behavior, change in employee behavior, etc.

In general, to find out if there was an increase or decrease in employee productivity, results need to be compared with other employees or with another period of time. Measuring productivity this way is more difficult for organizations providing services, something intangible, than for organizations selling tangible products. In the services case, “*number of customers*” can be considered as an input in the productivity ratio (Pritchard, 1990).

This method is the easiest way to measure productivity, but there are positions that are not related to production, such as sales positions, development, etc. At the same time, if employees are productive, it doesn't have to mean that organization is being profitable. Employees can produce masses of products, sellers can work as fast as possible, and thus appear

as productive, but if there is no demand after these products or services, than organization is losing. And so, the effectiveness “*measures of productivity*” are being used (Haskell, 2015).

This type of productivity measure looks at output in relation to planned goals on exact position at an organization, such as sellers, accountants, etc. Organizations set goals, also called KPIs - Key Performance Indicators - which help employees better understand what is expected from them, what is important to focus on and to achieve during a certain period of time. At the end of the period managers or leaders compare reality with stated KPIs. Thus, organizations can better see how employees were performing, and evaluate their productivity in relation to their strategic goals and objectives (Team, 2015).

For some companies however, measuring employee productivity is either way too difficult of a task or totally inapplicable. Then, the solution might be a questionnaire addressed to employees that rates their own perceived personal productivity (Humphreys & Nicol, 2007).

Perceived productivity ratings are widely used in many companies. This way employees have to evaluate their performance and productivity themselves after accessing what they’ve achieved. They can be asked about what affects their productivity, to compare themselves to others, how they are satisfied or dissatisfied, what they would like to change, etc. Humphreys & Nicol (2007) are discussing the idea that employees have at least some idea of how productive they are at work, and also they are aware of the effect of the workplace conditions that it has on their ability to work. They are also discussing that employees tend to adjust the workplace to improve their comfort, reduce irritation and distraction, and boost their ability to perform their role. Thus, after summarizing these arguments, it can be said that employees can hardly assume such productivity effects. Also, a disadvantage of this method is that when people are making comparisons, they don’t entirely account for the capabilities and abilities of other employees, thus they cannot make the actual comparison to the others but just assume if he or she is good, average, or bad, and thus estimate own productivity (Kruger, 1999). Therefore, organizations have to analyze the results and interpret them carefully. Measuring employee productivity is a very difficult task and is significantly uncertain, but if organizations want to grow constantly and bring their owners desired profits, they must seek the ways to increase it in order to achieve their goals.

Factors that influence employee productivity

There are many factors that influence employee productivity. Some of them are easily changeable, some of them require time, and some of them cannot be affected at all. Among these non-controllable factors are, for example, employee's personal lives and problems. Those are the things that affect employee energy and enthusiasm, and if the employee cannot deal with it, it can bring a very negative attitude to his or her performance (Prokopenko, 1990). Other factors that influence employee productivity are:

- Management style
- Technology
- Knowledge and skills
- Education
- Mental condition
- Team building
- Training
- Culture
- Sanitation
- Physical workplace
- Absenteeism
- Happiness
- Mood and sleepiness

But the most important are:

- Job satisfaction
- Motivation

Employee **satisfaction** and their **motivation** are the most important issues for organizational productivity, and they are both related. In order to make employees satisfied and committed to their jobs, there is need for effective motivation. The reason is that satisfied and well-motivated employees tend to be not just more productive, but also more creative and committed to their jobs and employers (Tella, 2007).

Job Satisfaction

According to Spector (1997), “*job satisfaction is attitudinal variable how employees feel about their jobs and different aspects of it – whether or not the job met the employee’s physical and psychological needs for the things provided by work. It is some extent a reflection of good treatment and indicator of emotional well-being or psychological health. Satisfaction leads to behavior by employees that affects organization functioning. Employee feelings can lead to both positive and negative behaviors, and is usually measured with interviews or questionnaires administered to the job incumbents in question. The following points reveal the key job satisfaction aspects:*”

- Respect and appreciation
- Having interesting work
- Relations with subordinates
- Job security, policies and procedures
- Personal growth
- Vacation days
- Being able to work independently
- Limiting the amount of on-the-job stress
- Income
- Working within a reasonable distance from home
- Promotion opportunities
- Physical workplace (Spector, 1997; Tella 2007; Prokopenko, 1990)

Generally, people who are happy in life are happy in their job – this is called “*dispositional theory*”. It’s uncommon for people in our society to be completely happy, and thus it’s a role of employer to find an inner force of employees and motivate them to attain personal and organizational goals (Spector, 1997).

Motivation

MSG Experts, (2016) say that “*motivation is the word derived from the word 'motive' which means needs, desires, wants or drives within the individuals. It is the process of stimulating people to actions to accomplish the given goals. In the work, psychological factors stimulating employee's behavior are:*”

- Desire for money
- Success
- Job satisfaction
- Team work
- Recognition
- Physical workplace (Dhawan, 2013; MSG Experts, 2016)

The importance of motivating people is evident at all levels of organization. Starting from managers who need to find factors that motivate their subordinates to make them more productive, through employees who need to think through what expectations they have of work, ending up with HR professionals who have to understand motivation to effectively design and implement reward structure and systems. But, according to Maslow's hierarchy of needs, to motivate people is impossible before fulfilling needs on the basic level (Frey & Osterloch, 2001)

Let's remind Maslow's pyramid of needs:



Source: Tanner, (2016), own creation

Tanner, (2016) mentions that *“once the basic needs are met, the employee will want his “belongingness” (or social) needs met. The level of social interaction an employee desires will vary based on whether the employee is an introvert or extrovert. The key point is that employees desire to work in an environment where they are accepted in the organization and have some interaction with others. Which is why effective interpersonal relations are necessary. Managers can create an environment where staff cooperation is rewarded. This will encourage interpersonal effectiveness. Ongoing managerial communication about operational matters is also an important component of meeting employee’s social needs. Employees who are “kept in the dark” about operational matters and the future plans of the organization often feel like they are an organizational outsider. This last point is especially important for virtual employees whose absence from the office puts an extra obligation on managers to keep these employees engaged in organizational communications. With these needs satisfied, an employee will want his higher level needs of esteem and self-actualization met. Esteem needs are tied to an employee’s image of himself and his desire for the respect and recognition of others.”*

All this managers need to take into consideration before finding the best options to motivate the employees, otherwise there is a risk of unmotivated people that will tend to avoid

their task, procrastinate, try to avoid the workplace or produce low quality work and thus be unproductive. The best way to learn these information about employees is by constructing surveys and questionnaires, and interview them. Herby, they can learn the most about their behavior and apply a solution (Eich, 2016).

Both employee satisfaction and motivation can be improved by workplace, and as previously mentioned very significantly. Now, when the factors affecting employee productivity were named, the following part will deal with a question as how workplace can affect employee productivity so the company benefits.

3.2. Office Development

In the past, employees had to sit at their desks if they needed to answer emails or just communicate with a colleague. Today, anyone can do that - or any other work - from anywhere (unless it is a manual work where presence is required). World is becoming more mobile, and most of the modern and multinational companies aim to give their employees more freedom in terms of their presence at workplace. Organizations are designing workplaces that no longer look like that but quite on the contrary – as places fulfilled with calm and peaceful atmosphere. But offices that we recognize nowadays were developing for decades.

The concept of the office have been around from ancient Egypt to the House of Wisdom in the Orient, where one of the world’s major translation movements took place, although the word “office” was invented by the Italians in 16th century, and the commercial office had its birthplace in the US. The idea for office space was sparked by the newly invented electric lighting and telephones — as well as an increased demand by management for white collar workers. However, most white collar workers didn’t have the luxury of a room with a view. Based on the principles of factory efficiency promoted by Frederick Taylor, the majority of the early 20th century workforce spent their days in a large room with a sea of small desks, side by side. The idea was to squeeze in as many people as possible so one person could oversee everyone in the office very easily.

In the 1930s corporations started to tend into more human-friendly environment and focused more on aesthetics of the interior and exterior. This caused a white-collar factory in a kind of cathedral space. However, in 1950s air-conditioning and fluorescent lighting meant that offices could become windowless, which meant no need for natural light. Outer-wall offices with windows remained the domain of upper management; corner offices with multiple windows were reserved for CEOs and other top executives. As office spaces swelled in size, employee job satisfaction decreased. It sapped vitality, blocked talent, and frustrated accomplishment.

At the turn of the Millennium, however, there was a paradigm shift: The workplace turned into a lifestyle. The office plan became more diverse, with the introduction of new office typologies such as archipelagos, fields and city grids. With the catch-phrase “living the brand,” the office became a place for informal meetings and recreation, such as ping-pong tables and ball pits. Nowadays, we can meet modern companies such as Microsoft or Google, where the office is not only a place to work, but also a place to play (Dalberg, 2015).

3.3.Designing the Workplace

For every organization a “*well-designed workplace*” means something different. Some companies demand their employees to be focus without any distraction for 90 % of their time, which may require to set up mostly private offices. On the other hand some companies need their employees to cooperate, which may result in open office areas. Thus, it is obvious that well-designed workplace is very relative and subjective for each company (Bell, M. and Joroff, M., 2002). Romm and Browning, (1998) define a well-designed workplace “*as one that enhances employees to perform their role efficiently and more productively, supports an organization’s strategic business initiatives, harmonizes with the culture of organization, embodies and reflects its values, and is environmentally healthy.*”

According to Mell and coll. (2010), “*when organizations are planning a new office, they have to think about practical issues such as spatial needs, proximity relations, IT infrastructure and furniture, but also more strategic issues such as occupancy costs, effectiveness of the*

working environment, and environmental impact. One of the most fundamental questions during the briefing stage concerns the office concept are:

- *What kind of office design best suits the working processes and culture of the organization?*
- *Should all employees have their own workstation or are they going to share desks?*
- *Would enclosed offices or a more open working environment be better?*
- *How much money to spend on it?"*

Obenreder and coll., (2006), says that "to offer the best value workplaces must go beyond simple function and aesthetics to become a strategic business tool that supports companies' goals."

There are three factors factors - work strategies, space and culture - must be in harmony. To build successful workplace, it happens only when executives, managers, designers, and employees all actively participate in developing it (Obenreder and coll., 2006). "Of course, change in organizations is difficult, especially office moves", says Mirmelli (2014). "Employees are used to a certain way of working and familiar commutes, and are wary of the extra workload in major relocations. For many employees it may be very stressful adapting on new technology or completely different system, especially for older ones."

Obenreder and coll., (2006), mentioned that "the result of poor workplace design are less productive and satisfied workers, and higher costs due to ineffective space use. Forward-thinking organizations of all sizes and across all industries have come to recognize that innovative workplaces can enhance employee and business performance— resulting in long-term cost savings and/or improved organizational performance. These companies have begun to tailor their workplaces to meet their particular needs. They are seeking ways to use their space and technology investments to enable rather than inhibit progress toward their objectives."

3.4. Workplace strategies enhancing productivity

There are recognized 11 attributes of the workplace that have the most significant impact on employees' productivity. Understanding importance of these attributes will further help with the practical component where productivity of employees is being measured. Among these attributes belong:

1. Building
2. Daylight
3. Access to Nature and Views
4. Noise Control
5. Human Factors and Ergonomics
6. Choice
7. Employee Engagement
8. Thermal Comfort and Temperature
9. Color
10. Indoor Air Quality
11. Crowding (Stringer, 2013; Wright, 2014)

Building

A building's function on employee productivity is mostly forgotten even though it plays a significant role and may positively affect the employees' ability of reaching the organizations goals and objectives.

Choosing the right location can enhance employee health and safety, their motivation and satisfaction, and also can have an impact on their psychological and physiological engagement. Negative affect on employees can have accessibility to the office. For this reason, building should be located somewhere near by the public transport or as close as possible. Many people are using cars, thus a garage plays its role as well. Negative impacts are also associated with conditions that are noxious, loud, uncomfortable, hazardous and distracting coming from

outside of the building. Thus organizations should, if possible, avoid them, and provide a building, or offices in the building, where people will feel comfortable (Stringer, 2013).

Daylight

Various types of light affect people both mentally and physically. These effects are easily overlooked and less quantifiable assets of the daylight. Daylight has a very positive impact on human being – it is associated with lower fatigue, reduced eyestrain and enhanced morale (Robbins, 1989). It helps people regulate circadian rhythms, and the daily cycles of waking and sleeping hours (Stringer, 2013). Also, natural light increases the neurotransmitter in brain – serotonin – which stimulates stress, disposition, and mood.

On the other hand when the daylight is not available than companies are solving this problem by installing artificial lighting, which is not always the best for employees health. The two common scenarios for poor office lighting may occur:

- Light is too harsh
- Lights are too dim

The most common scenario is lighting that is too harsh. It causes eye strain, and makes it more difficult for eye to focus. Also, it is connected as a trigger for headaches or even migraine. Dim lighting is just as harmful – it causes eye strain, lack of concentration and drowsiness which is leading to negative impact on employee satisfaction and motivation. Thus, the best alternative is natural lighting which have been shown to cause fewer illness, less absenteeism, and generally happier workers (Jensen, 2016).

Workplace Strategies Related to Daylight

If privacy is not a requirement, the company can maximize its use of natural light by using glass to separate offices instead of opaque walls. Additional benefit of this glass wall is visual illusion of bigger space. Another strategy is organizing the floor plate to make the most of natural light onto the floor. It can be done by placing enclosed spaces around the core of the building and open spaces at the perimeter where windows are located (Stringer, 2013).

Access to Nature and Views

People generally prefer to be surrounded by nature which provides infinite sources of variety and sensory changes during the day. Seeing natural views around is very effective in improving mood, reducing stress, decreasing anxiety, relieving a boredom, and commonly in making people more satisfied and happy. The instinctive bond between other living systems (biophilia) and humans is important to replicate in interior environments. If it is not plausible to have access to a view of nature, a solution may be to decorate workplace with interior plants. Designers believe it is helping employees' health and enhancing their productivity due to plants' calming effects and its color (Saklani, 2014).

Stringer, 2013 says that *“when people can choose, they prefer to be in height where they can see better, and that allows them to look down. He also mentions, that people like to be in terrains that reminds savanna with shrubs, trees, and water around. People surrounded by nature tend to have more innovative thinking, more original solutions to problems and generally more ideas.”*

Workplace Strategies Related to Access to Nature and Views

It is very beneficial for employees to spend some time outside on the air during the day, even if it is for limited time. Thus, if possible, organizations can support it and enhance employees going to spend some time outside. They can create some outdoor terrace decorated with trees and plants (Wright, 2014).

Noise Control

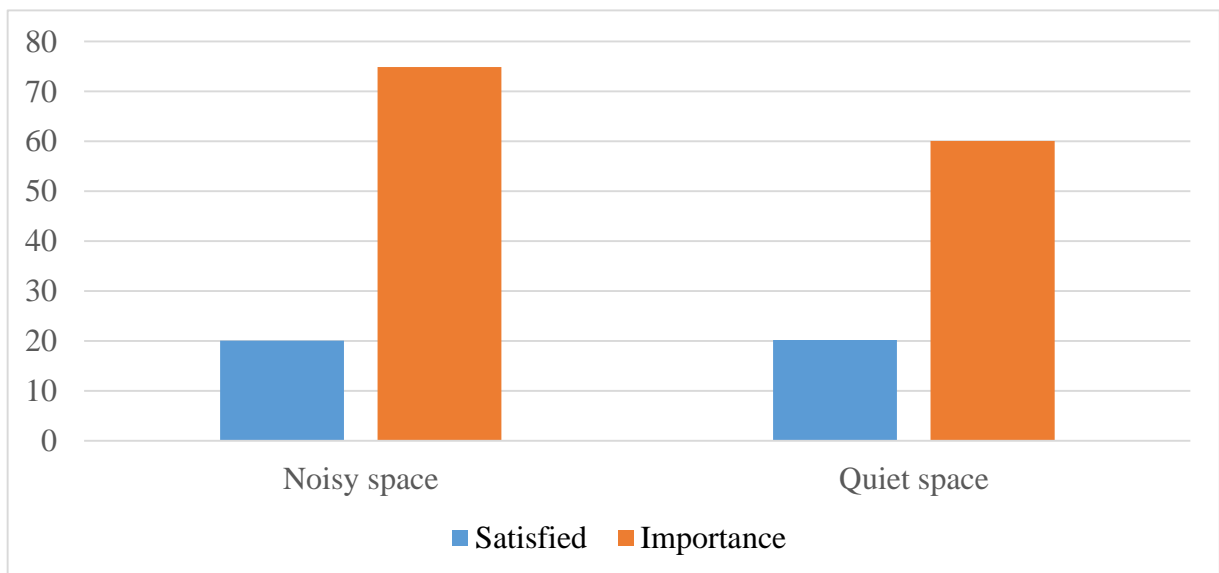
Not every person can get away from noise and it's extremely damaging for their health. When designing a workplace, designers need to take into consider the sound as well. The habit is to suppress the consciousness of sound including designers but it affects employee very powerfully, and that is:

- Physiologically (such as breathing, heartrate, brain waves, etc.)

- Psychologically (such as employee’s mood – for example, natural sound of birdsong evokes peace, on the other hand drilling evokes stress, etc.)
- Cognitively (such as hearing different conversation while working negatively affects productivity)
- Behavioral (when people cannot work with distracting sound at all)

Noise is the number one complaint in modern offices, and is degrading employee’s productivity enormously. Leesman’s Company, that measures relationship between organizations, people and places, applied its survey on 10 thousand people during years 2010-2014, examining what is important for people at work and what makes them more productive and happy. As illustrates Graph 1, noise is a serious issue for most of the employees, and just very few of them think it’s ok (Treasure, 2014).

Graph 1: Leesman’s Index of Happiness, related to level of sound, applied on 10 thousand employees during years 2010 – 2014



Source: Treasure (2014), own creation

But none of those extremes - noisy or quiet places - are appreciate by employees. Sound is an issue to most of the organizations, but generally noisier are being open offices. It is also

closely related to how the workplace is organized, designed, and on the nature of work. Interruptions by noise during mundane, simple task can actually have a positive stimulation to employees that they need to keep going. On the other hand, while they are doing some difficult, comprehensive work that requires concentration, it can have an opposite effect. The result is longer time spent on the task, irritation and negatively reduced mood that causes lack of motivation (Treasure, 2014). Stringer, (2013) says that *“the key is allowing people to control noise by providing access to a room with a door and acoustical separation”*. When employees have some control over the noise in their environment, they are less distracted by it (Wright, 2014).

Workplace Strategies Related to Noise Control

While designing workplace, designers recommend to include equipment that will help to absorb sound, such as carpet, ceiling and fabrics. Furniture, paintings, panels, screens, walls are also things that will have a blocking sound effect. Companies should separate quiet areas from noisy and energetic spaces, and provide spaces where people can be hanging out but without distracting others. Alost, organization should set up some sound limiting policies for employees. Another workplace strategy is to provide employees with headphones (Wright, 2014).

Human Factors and Ergonomics

These two terms are very closely related, and many publications say they are even synonyms. Ergonomics is defined as a scientific disciplines which sources from psychology, engineering, industrial design, etc., and which is trying to understand correlation between employees (human factor) and designing environment that perfectly fits to them. Organizations should source from ergonomics, and with help of employees design a place that is functional, safe and comfort, and that is fulfilling their needs and limitations. Thus, they can promote their productivity (Wright, 2014).

Furniture, equipment, health and safety, technology, and comfortability – this all includes ergonomics, and if employees complain about, for example, a pain of back and shoulder, it is generally a result by ergonomically-poor environment (Shore, 2015).

Workplace Strategies Related to Human Factors and Ergonomics

Companies can increase employee comfortability by providing employees adaptable furniture such as easily adjustable chairs, diverse rooms with desks and tables but also chill areas with sofas, standing desks and keyboard trays that allow them to stay mobile and adjust the workplace to their needs. If possible, some type of movement attraction such as gym, punching bag, Kinect, and so on can help employee to stretch. Organization can also encourage employees to use the stairs instead of elevators by displaying calories burned every time while used. Appropriate technology should enable employees to better efficiency and mobility. By organizing trainings and seminars they can teach employees to better use the technology, but also equipment and furniture (Stringer, 2013).

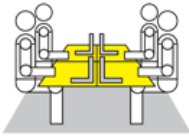
Choice

The best workplace is the place where employees have a choice of working in the quiet room but at the same time they can cooperate. Sometimes everyone needs a privacy, some type of nooks and crannies to pick up the phone, have a meeting with a client, or just place for a personal relax. At the same time, while working on some projects together, they should be able to go off and don't distract the others. Every person is an individual and what might be the best for one can be stressing for the other one (Hickey, 2013). Treasure, (2014) advices to develop a workplace that includes 3 different room choices for:

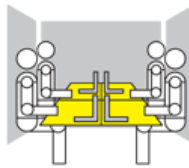
- Collaboration
- Concentration
- Contemplation

Well settled and designed offices empower creativity, connectivity, prosperity, and productivity (Treasure, 2014). For **collaboration**, the most common working spaces are:

- *Open spaces*¹ – also known as open offices. These offices are normally set up for 10 and more people. Each person has his or hers own table that can customize (has own drawer with personal stuff, computer...). Companies design such rooms to maximize the use of a large space, by putting as many people as possible together into one room. This way employees can easily cooperate and have direct contact with each other. These rooms are meant for daily work and are specific by being spacious, opened. They are suitable for job positions that need relatively little concentration because distraction is often being a problem (MEEL and coll., 2010).



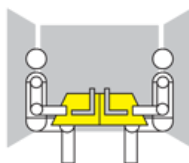
- *Team rooms*¹ – enclosed or semi-enclosed rooms set up for group of people who want to cooperate in privacy. These rooms are suitable for teamwork which may be confidential and demands frequent internal communication. In bigger companies they need to be booked in advance. Team rooms are not meant for daily work as open spaces but for occasional purposes. They are also convenient for meetings with clients or partners (Miller, 2013).



- *Meeting room and conference room*¹ – are designed to support information sharing whether there is a group of people talking or a single speaker at the head of the room. Rooms might include a technology for virtual connection such as TV, camera, projector, microphones, and other tools. As team rooms, in bigger companies is common the access to the room need to be booked in advance (Miller, 2013).



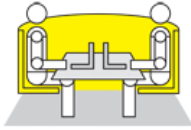
- *Shared offices*¹ – are smaller enclosed workspaces meant for two or three people. It is a compact space that enables employees to engage with each other for short period of time. As a meeting room or conference room, it can also accommodate certain technology, but the difference is the size. They are



¹ All used pictures signed with reference number 1 are sourced from MEEL and coll., 2010. They have been used to better demonstrate the reality.

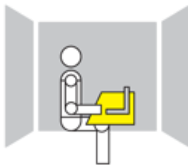
convenient for confidential purposes, meetings with clients, or interviews (Miller, 2013).

- *Work lounges¹* – are friendly oriented workspaces designed for two to six people. They are not separated by wall but generally embedded in to the workspace space on the side. They are made for purposes where privacy is not required, for short-term activities which demand collaboration and/or allow impromptu interaction (MEEL and coll., 2010).



For **concentration**, the most common working places are:

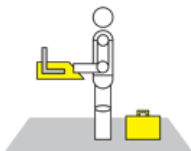
- *Private offices¹* – can be enclosed or semi-enclosed workspaces that are set up for one person who “owns” it. They are suitable for roles where high concentration and focus is required. They might be used for small meetings as well but generally, only one person occupies it (Miller, 2013).



- *Cubicle rooms¹* – are enclosed or semi-enclosed workspace for one person. These spaces have similar characteristic as private offices except they are not mean for particular person but for the one who comes first or who books it. They are normally equipped just by table and chair, and mostly not have a window. These rooms are suitable for activities which demand high concentration and privacy at the moment (MEEL and coll., 2010).



- *Touch down spaces¹* – also called “stations” are opened friendly workspaces made for one person. These spaces are not separated by wall but generally embedded in to the workspace space on the side. They are equipped just by little desk, chair is missing. Therefore, they are meant for short-term activities which require low interaction and little or no concentration (Miller, 2013).



For **contemplation**, the most common places are:

- *Chill areas*¹ – are designed to boost employees health and well-being. Normally, they are furnished by sofas, comfortable chairs, snack vending machines, and some distraction such as TV or radio. This is the place where people are taking breaks, hang out with their colleagues, chat, and getting distracted (Bettelley, 2014).



- *Games rooms*¹ – as chill rooms, they are meant for employee distraction. They can be equipped by various games such as pool table, darts, punching bags, video and TV games, etc. Both of the rooms, chill area and game room contribute on employee well-being and satisfaction which helps distraction and creativity (Bettelley, 2014).



Workplace Strategies Related to Choice

To get as much as possible from the workplace, organizations should equipped the place by technology that allows employees to collaborate and connect – either virtually or by person - effectively. In every organization is communication very important, and to empower it, they can mix web conference, teleconference, video conference, social media, instant messaging and other tools. This can help communication not only between different teams, but also different countries and continents (Wright, 2014).

Employee Engagement

“*Engagement*” refers to the level of passion, emotional energy, commitment, and dedication that an employee is radiating. An engaged employee is the employee who is enthusiastic, fully absorbed about his or her work role, and motivated to contribute to organizational success (Carbonara, 2012). There exists a correlation between engagement and satisfaction, thus, while employees are engaged it means they are also more productive, safer and profitable for the company. They are considered as the best source of new ideas for the companies, and therefore

they are more preferable. Generally, such employees are loyal and stay with the companies longer (Stringer, 2013).

Workplace Strategies Related to Employee Engagement

To engage employees more by the workplace can companies do by letting workers to participate on designing it, or ask for recommendation from them. Even if they are involved to make little choices such as selection of color, technology, or equipment can make them feel more satisfied and respected, which is, as previously stated, increasing their productivity. When employees are enabled to see each other, they can connect and collaborate better – this is also increasing their engagement. Organizations can achieve that by designing workplace that enables openness, mobility and visibility (Wright, 2014).

Stringer, 2013 recommends *“to provide collaborative spaces that incorporate the five “Cs”: coffee, CNN or some other background “buzz”, circulation, connectivity and comfortable seating.”*

Thermal Comfort and Temperature

Thermal comfort and temperature are closely related to employee satisfaction and might significantly reduce or improve employees’ performance. Wright, (2014), is mentioning, that *“thermal comfort is created through the right combination of temperature, airflow and humidity.”* Thus, for employees’ physical comfort is required to combine all these elements at the organization. If the thermal comfort and temperature are well managed, it improves health and safety as well as the employee productivity. On the other hand while employees are working in uncomfortable conditions their ability to concentrate, make decisions and perform is rapidly declining (Gov, 2015).

Keys to thermal comfort include:

- The best temperature in the offices should be 21.6 degrees Celsius (70.88 degrees Fahrenheit) with a 1 – 2 % decrease in performance for every 1° C (1.8° F) above or below.

- A little lower temperature is associated with higher accuracy on simulated tasks and reduced sick leave.

Workplace Strategies Related to Thermal Comfort and Temperature

Organizations can solve the problem with thermal comfort and temperature by providing a heater or an air conditioner to the workplace. If possible, they can also place underfloor air which helps air circulation. Also, access to windows will increase the sunlight, temperature control and airflow (Wright, 2014).

Color

Colors have significant psychological effect on everyone, and impact the way people feel and think, either consciously or subconsciously. How the colors are perceived is different for everyone and depends on personal life experience, preference and culture (Devenish, 2016). However, there are some generalizations about colors:

- **White** – is considered as a very modern and clean color, and has a sleek look. Generally, this color is connected with good feelings, calmness, and higher focus on the tasks.
- **Yellow** - is being associated with alert and clear head, which is allowing better concentration and decision making. This color is often being chosen to kitchens or dining rooms because is evoking higher appetite.
- **Pink** - is linked to calm feelings. Sometimes, this color is being used in some prisons (for example in Switzerland) to reduce aggressive behavior. The best use can have for board rooms where are employees having conversations.
- **Red** – is a color evoking strength, ambitions, energy and vitality. While working in a red room, in general, employee’s reactions become faster. However, while working in a redly painted room for long-time it can have distracting impact and reduce analytical thinking.
- **Green** – is the color of nature, and commonly considered that increases broader thinking, thus is helping creativity. Employees working in green-painted rooms are more relaxed and productive.

- **Blue** – is enhancing mental control and calming feelings. Probably because it is the color of water and sky, it has such a peace-evoking and stable effect on employees. Devenish, 2016, even says, that *“this color is accepted as one of the most productive colors, and is the most common favorite color around the world.”*
- **Brown** – is being associated with laziness, tiredness, practicality and seriousness. It is not considered as the best color to increase productivity in employees, thus it is not the best color for workplaces where fast reactions and enthusiasm is required (Devenish, 2016).

Work Strategies Related to Color

Generally, companies should use lighter colors that have better psychological reactions, and at the same time help increase the amount of natural light. Colorful workplaces feel happier and more energetic, thus companies can vary colors through the organization, use different design and techniques to each character of space (chill areas, meeting rooms...), etc. By using colors strategically organizations can influence employees’ behaviors and feelings, thus promote their productivity (Wright, 2014).

Indoor Air Quality

Indoor air quality is one of the most problematic attribute for employees’ health, and nowadays receives a lot of attention. Potential contaminants include things like cigarette smoke and dust, but also gases from outside including borne toxins and noxious chemicals, microbial contaminants, or any other mass that cause adverse health conditions. Sometimes unfavorable substances are associated with furnishings and materials, equipment, cleaning products and hazardous substances that are closely related with work processes (Saklani, 2014). When employees are continuously breathing contaminated air while at work it can cause them symptoms ranging from discomfort and changes in mood, to extreme reduction of their ability to work, illness and absenteeism connected with allergies, respiratory disease or asthma. Thus, the health of the workplace can negatively affect cost of health insurance and employee productivity (Kmc, 2015).

Due to all named reasons workplace should support good health and search for ways that prevent from air contamination. Several decades ago, there wasn't a possibility for any air filtration. Technology was not advanced enough to offer devices that are known nowadays, such as ventilations, source control or air filtrations. Today, this equipment has most of the buildings in developed countries, and is considered as fundamental equipment that helps improving the indoor air quality (Kmc, 2015; Saklani, 2014).

Workplace Strategies Related to Indoor Air Quality

To prevent from the unfavorable air conditions can help keeping the place clean. Companies should train cleaning staff how to properly use chemical cleaners and other cleaning equipment. This also include vacuum cleaners that are commonly poorly used. Maintain heating, air conditioning, ventilation and other equipment – all of them should be regularly checked and cleaned, if necessary changed.

Houseplants reduce dust and other air pollution, thus organizations can use them as a useful decoration in workplaces. Another workplace strategy is to equip the workplace by quality furniture, carpets, paints, and other finishes that don't include organic compounds and chemicals. If possible, organizations should invest to products with eco labels (Stringer, 2013).

Crowding

When the workplace is overcrowded it means that employees won't be able to work efficiently without interrupting their co-workers. At the same time, it puts pressure on organizations' facilities and infrastructure. This includes everything from hallway, bathrooms and desks to ventilation and air-conditioning. If an air-conditioning cannot provide enough fresh air for employees, employees suffer and are performing poorly. It can lead to risk of accidents. Another problem occurs with emerging exits which during emergency might not allow rapidly enough evacuate all of the employees (Iten, 2013).

When people feel overcrowded it may evoke them claustrophobic feelings, stress, affect morale and cause dissatisfaction that is so important for the performance. Everyone is perceiving

crowd differently, and it is closely related to person's culture that varies by background, gender and individual preference.

Wright, 2014 is pointing out several rules:

- *“People who work in high-rise buildings feel more crowded than people who do not. This effect is reduced for people who reside on the upper stories in tall buildings, likely because they have better views and access to daylight.*
- *Lighter, brighter spaces, as well as rooms with high ceilings or those that have walls with mirrors, are perceived as less crowded.*
- *The perception of crowding can be reduced through the use of furniture, plants, decorative elements or pillars. These objects prevent people from feeling crowded or distracted.*
- *In the same conditions, men are more likely to feel crowded than women. Men have better peripheral vision than women, and are more likely to perceive others in the same space.”*

Workplace Strategies Related to Crowding

Reduce crowding can be done by enabling employees access to windows that is causing optically more spacious workplace and helps decreasing claustrophobic feeling. When handling seats and desks for employees, organizations can try to reduce the impact of seeing too many people around at once, or they can place desks so people have enough personal space (Wright, 2014).

All 11 aspects described in detail above significantly contribute to employees' satisfaction and motivation that is very closely related with their productivity. By understanding the importance of these aspects will help to better understand the workplaces in Microsoft. It will be discussed in the practical component. The following part introduces **the working environment trends and tendencies nowadays.**

3.5. Working Environment Trends and Tendencies Nowadays

Global working environment is nowadays changing exponentially, especially in complexity and the level of competitiveness. If organizations want to survive, they need to be responding quickly to increasing demands for innovative products and services, higher quality and faster time-to-market capabilities.

Beginning of 21st century has brought new trends and tendencies in working environment and its design (Lawler & Worley, 2006). The most important changes are evident in:

1. Flexibility and mobility
2. Networking
3. Customer orientation
4. Energy sustainable workplaces

Flexibility and Mobility

Globally, employees are becoming more and more flexible and mobile. Organizations are taking advantage of this boom and implement new strategies for managing their highest operating costs such as technology, personnel and real estate. Due to this new strategic approach to employee mobility and flexibility are organizations enabled to improve an agile, engaged, more productive and compatible workforce that no longer operates in a centralized manner and highly routine (Kiney, 2014). For example, what organizations do to save money on their operational cost is that they create a workplace enabling to accommodate less employees than there are actually working. They literally shrink the workplace. More concretely – let's say, organization employs 200 employees but a workplace itself has desks only for 100 employees. The reason is that the organization already expects that not all employees come to work, that they will work from home or from anywhere else. This way, organizations can save hundreds up to hundreds of thousands dollars per year.

What “*mobile worker*” is describes Kiney, 2014 who says that “*it can be almost any type of employees whose role does not inherently require a constant presence. And, they are*

using their flexibility to be more agile and productive. They are not just empowered to avoid the distractions, disruptions, and cycle of constant meetings that often characterize a typical office workday, but they are also using mobility to spend more time meeting and collaborating with customers, vendors and other business partners. Also, as work-life balance becomes a higher priority for today's workforce, and increasingly global operations may require work time outside of traditional office hours, mobile workers are demanding flexibility to work when and where they need – especially when they know that technology makes it possible.”

Networking

Generally, networking is a socioeconomic activity by which organizations act upon business opportunities (Österle and coll., 2001). Representative workplace design for networking plays important role by showcasing the profile of the company, and thus can trigger greater desire in connecting.

Nowadays, organizations are more interested in networking and partnering with other organizations, stakeholders, clients, and customers due to developing a long-term relationship, and thus can both benefit. Advantage of networking is better exchange of information, communication, negotiation, and generally in blurring corporate boundaries. Significant role in communication plays also technology, internet and social networking which allows connection on global level (Grant, 2009). Many organization also use networking as a key factor to do marketing. It supports the trust between involved parties and plays a significant role in increasing company's' profile (Power, 2009). The design of the workplace highly contributes to developing a desire and connect with the other parties easier. The trend among giant companies is creating very modern and nicely looking workplaces that proves trust and power of the company. Among such companies belong Google, Apple, Microsoft, etc.

Customer Orientation

Organizations realized that to get new customers and make them loyal to their brand, they need to experience the product. In the past, companies focused mainly on products, its manufacture and over time also on marketing. Since the beginning of the 21st century companies

shifted to the customer lifestyles, and started to implement their products into the workplace (Gensler, 2015). Good example is well known Ikea – the world's most successful retailer. While shopping at Ikea, customers have a chance to experience every piece of furniture integrated in the real-house-looking spaces. They can touch it, feel it and better visualize by their own, which helps them to decide to buy it. Due to this philosophy is Ikea so successful. The philosophy supports Gensler, (2015) who stresses that *“there is an emphasis on customer touch points. The idea is to evoke the customers in the space so their influence is felt in relation to evolving the brand and products. There can be an artisanal aspect to these companies. Others identify with where the products are sold or the ambience they suggest. Including these touchstones can be helpful to people’s creativity, so finding them referenced in the workplace is not unusual. That immersive context cements an emotional tie with the brand and products that promotes customer empathy and the innovations that keep both relevant and fresh.”*

Environmentally Sustainable Workplace

Number of people who live in “green houses” is growing progressively every year, but now, this trend penetrated corporates as well. More and more companies are moving to the so called net-zero buildings which are described as a buildings with zero net energy consumptions. Environment is nowadays widely discussed topic, and buildings have a huge impact on it (Reidly, 2013). By shifting to the green buildings companies relieve the load on the environment, and thus help to:

- Protect and enhance the ecosystem
- Avoid pollution of the water and air
- Conserve and restore natural resources

But also:

- Optimize life-cycle economic performance
- Reduce operating cost
- Enhance employee productivity
- Empower the company’s profile and good reputation

- Improve employees health and comfort
- Support overall quality of life
- Advance qualities of aesthetic

Principle of these green organizations is to generate renewable energy for their own use. In general, “*renewable energy*” is defined as energy collected from resources that are naturally replenished on a human timescale, such as wind, solar, rain, geothermal heat, waves and tides. Companies are using them for air and water heating or cooling, and as an electricity source (Winter, 2014).

An example of such company is Bullit Center in Seattle. Even though this company is located in cloudy and rainy place, it is successful and self-sufficient project that fulfilled the expectation. They are achieving net-zero water (they filter rainwater, gray-water reclamation and flush toilets water), have radiant heating and ventilation, and highly efficient heating and cooling, and are also maximizing ambient daylight. At the same all equipment they have is made of eco-friendly materials. Other materials, such as lead or cadmium, were excluded (Reidy, 2013).

More of these self-efficient and eco-friendly organizations are expected in the future.

In this point the theoretical component is done. Another part is dedicated to Practical Component which is using a knowledge learned from Theoretical Component.

4. PRACTICAL COMPONENT

The first part of the practical component introduces Microsoft and its foundation in general, then focuses more on describing Microsoft s.r.o. in the Czech Republic, Prague. This part is very important for understanding the mission and vision that Microsoft have stated, thus better understanding the reason of creating both workspaces (Open Space and Shared Desk) the way they created it.

The second part is dedicated to the internal research such as examining Microsoft's workspaces in the Czech Republic before and after the recent transition from Open space to Shared desk, and analyzing the impact of both workspaces on employees' productivity. A qualitative methodology in form of carefully elaborating a structured questionnaire that is able to be seen in **Appendix 1** (Questionnaire submitted to the employees before the transition, in Open Space) and **Appendix 2** (Questionnaire submitted to the employees after the transition, in Shared Desk) was applied for this research.

The reason for which a qualitative methodology was applied is because of the size of the company. Compounding employee productivity by a quantitative method is a very difficult task, and in an organization such as Microsoft, it is impossible. Also, the results would never be accurate. The method used in survey - qualitative methodology - is based on perceived personal productivity of employees, where they have to evaluate their performance and productivity themselves, and state the effect of the workplace conditions that it has on their ability to work.

The web page Survio.com was chosen for the questionnaire. It enables the preparation of the questionnaire in a professional level, shares the link with questionnaire on-line, and at the same time simplifies the analysis of results. All together 80 responses of employees from Microsoft – 40 responses from employees working at Open Space before the transition, and 40 responses from employees working at Shared Desk after the transition were collected.

The first questionnaire was submitted on 14th May, 2015, and completed on 25th May, 2015. The second questionnaire was submitted on 22nd February, 2016, and completed on 29th February, 2016. The reason why the second questionnaire was submitted this late was due to the recent transition. Employees were moving from the previous workspace, Open Desk, to Shared Desk on 5th of October 2015, and it was necessary to let employees settle down in the

new workspace for the survey to avoid reflecting the “wow effect”. Both questionnaires are supported by unstructured interviews with 6 employees of Microsoft who were either actively participating on designing the new offices or are internal employees. Due to the very strict confidential policy of Microsoft, no person can be named in this diploma thesis, therefore all interviewed employees are quoted as employee A, B, etc. Employees that have been interview are working on middle management roles, and two of them are even internationals who were highly participating on working design.

The final part of the practical component evaluates the results based on the questionnaires and interviews, and gives the recommendation to the company.

The expected hypotheses are:

H ₁	Microsoft’s transition of workspaces from Open Space to Shared Desk significantly raised the overall workspace satisfaction.
H ₂	Microsoft’s transition increased formal and informal collaboration between employees and thus increased individual and team productivity.
H ₃	Effective use of this new workplace, Shared Desk, led to reduction of working hours spent at work, and thus lowered costs associated with the operation.

4.1. Microsoft and its Founding

Microsoft is a multinational American corporation headquartered in Redmond, Washington, that was founded on 4th April, 1975 by Paul Allen and Bill Gates. Both of them were friends since childhood who completely fell for computers in an age when the access to it wasn’t really easy. Skipping classes at school helped them to create one of the biggest technological companies in the world.

Bill Gates started to attend Harvard University in 1973, however his thoughts about computers never left him. Most of the time at Harvard he spent at the computer room working on his programming skills. Not long after he started his studies, Paul Allen came to visit Bill to pressure him to quit Harvard and start fully working on their project (BELLIS, 2015).

In 1975, they have opened a very first form of partnership, which was small, but had a huge **vision of every home with a computer on the desk**. Shortly afterwards, in 1980 Microsoft developed their first operating system “MS-DOS” which was effective but for many people very hard to understand. The organization continued with a development, and in 1985 came up with Windows 1.0 Now. Unlike MS-DOS where people did their commands by typing, with Windows 1.0 Now they could do it by clicking the mouse on windows on the screen. Back then it was very unique.

In 1988, Microsoft slowly fulfilled the vision when they were called the world’s largest PC software company by sale, and for many office workers computers were becoming a part of their everyday life.

Nowadays, Microsoft provides the software not only for computers, but also for mobile phones and tablets. Their products include: suites for Microsoft Office (such as Microsoft Office 2013, Microsoft Office 2016, etc.) and Microsoft Office for Mac (such as Microsoft Office for Mac 2011, Microsoft Office for Mac 2016, etc.), Xbox and gaming console Kinect, video games (such as Age of Empires, Halo, Minecraft, Zoo Tycoon, etc.), hardware (such as mouse, keyboards, etc.), computers (such as Surface 1, etc.), and more. The range of products grows rapidly every year (MICROSOFT, 2015).

Now, their previous mission of every home with a computer on the desk was completed and as Ballmer, 2013 says at the Microsoft’s annual report, **they set up a new mission** – *“to create a family of devices and services for individuals and businesses that empower people around the globe at home, at work and on the go, for the activities they value the most.”*

4.2. Microsoft s.r.o in the Czech Republic, Prague

In the Czech Republic was Microsoft established in 1992 in Prague 4, at Novodvorska Street, as a relatively small subsidiary that has started with only 20 employees. This subsidiary grew up quite rapidly and soon, there occurred a need for a larger office space. In 1998, headquarters decided for a location in Vyskocilova Street, not far away from the previous place. The deciding factor for this location was the convenient situation of the building in the center of Prague and the representative look of the building. Also, the fact that the building was

surrounded by the other important companies, such as HP, O2 or Huawei, contributed to the decision.

Since the beginning, Microsoft's success depended on the company's technological vision and the values that company lives by, which include the highest ethical and legal behavior. Along with providing the latest technology to clients and business partners, Microsoft has always been treating its employees very well, trying to support them and thus create a company culture which would enhance their motivation and satisfaction. As a working environment for the new offices in 1998, Microsoft chose **Open Space** – a very popular set up among companies. The reason of this workplace layout was to enhance the employee collaboration and save money on the operational expenses related to the workspace. With the use of the workplace and relatively free internal policy, Microsoft wanted to promote creative thinking of employees that would help them to better solve problems related to their roles.

4.3. Open Space in Microsoft, s.r.o in the Czech Republic, Prague

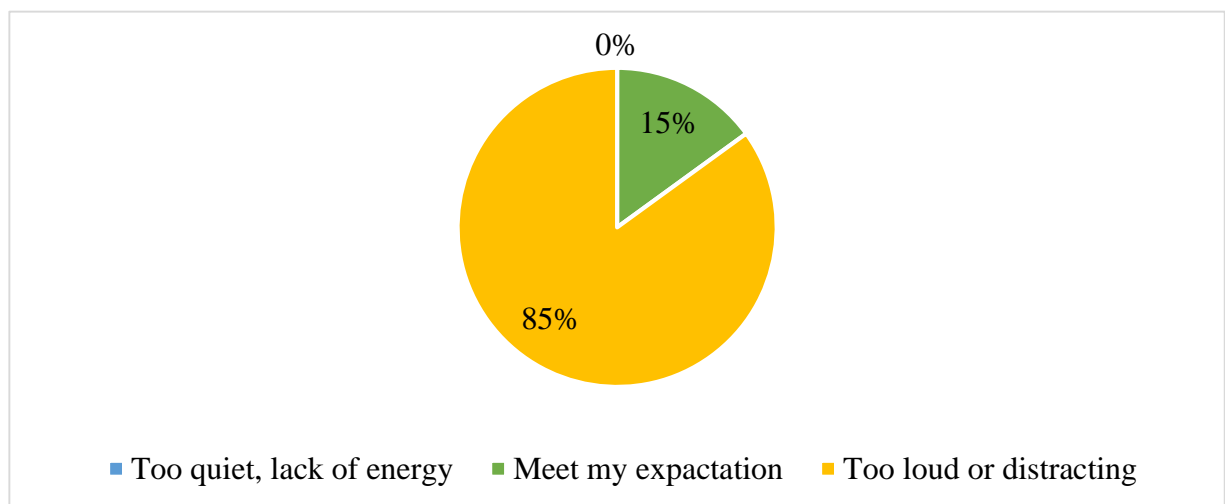
As mentioned, Microsoft tried to create a pleasant working environment that would give people the right conditions to cooperate, and at the same time have a pleasant and friendly atmosphere at the office. Due to the Open Space, they successfully fulfilled this request and designed 3 floors with 16 Open Space offices, 21 meeting offices (or conference rooms as they internally call it), 6 kitchenettes, 8 enclosed smaller rooms, and a reception with some type of chill out area where employees could take a break, relax on the sofas, watch TV or play Kinect. There was also a spacious terrace with a nice view where employees could come, sit and relax. For each team, there was assigned one room for about 10 – 50 employees. The map of entire working space is shown in **Appendix 3**. Rooms were separated by office furniture, thus employees had sufficient personal space and didn't feel crowded. Employee A admits: *“Place was really well ergonomically settled. Each desk was separated by short panel so there wasn't a problem with people staring to each other's screen. It gave us some type of privacy that we really appreciated.”*

Rooms were furnished by several desks with computers, and each desk was assigned to an individual employee. This allowed them to personalize their seats. Employee A added: *“A lot of*

people brought their personal pictures of families, but also had own keyboards that they liked better.”

Designers of the offices were thinking of setting up the tables for easy communication between the team, with convenient spacing. The survey shows that this wasn't effectively fulfilled. The problem with Open Spaces in general is the sound level, and in Microsoft it wasn't different. High dissatisfaction with the noise level is observed below in graph 2.

Graph 2: Employees' perception of sound level at Open Space



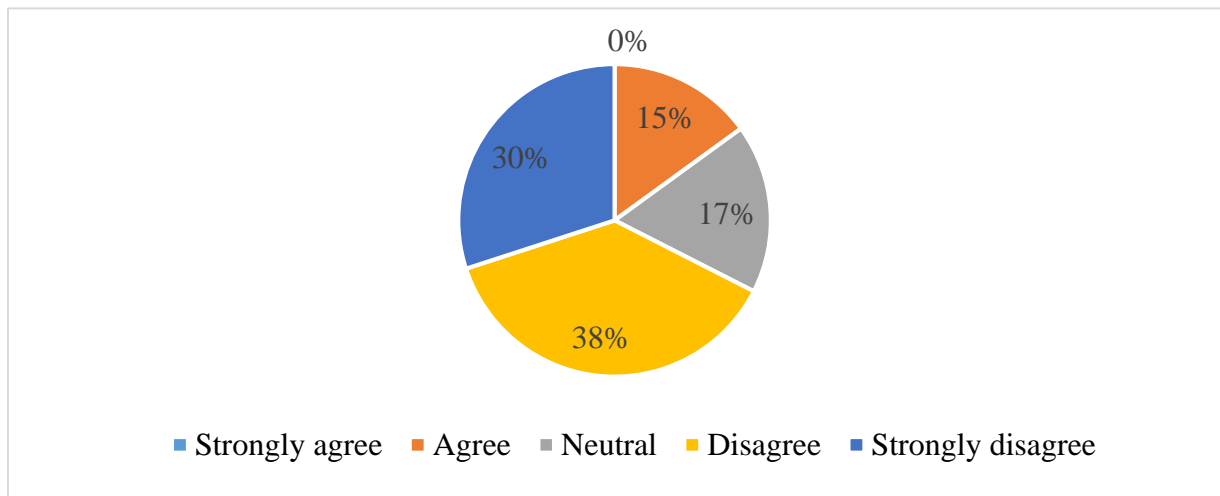
Source: own creation based on survey

Only 15 % (6 employees) were pleased with the level of sound in Open Space, and 85 % (34 employees) replied they weren't. Interviewed employee A says: *“Sometimes, it was very hard to concentrate while 2 people at once had a phone call and I had a task demanding a high focus. Then, people were talking loudly, they were dealing with their projects which was sometimes very frustrating. But at the same time, it was very convenient when I had to negotiate something quickly with the member of my team because my team was sitting around me. I didn't have to call the person but conveniently just talk over a table. This saved up a lot of time.*

Most of the time, the Open Space also eliminated the necessity to convene a meeting, because we could just discuss whatever it was at the moment when everyone was present in the office.”

Graph 3 below illustrates the results of the survey with respect to Open Space's privacy.

Graph 3: The Open Space allows employees of Microsoft to have privacy when needed



Source: own creation based on survey

Strong dissatisfaction is evident. No employee was fully satisfied with the option having privacy when needed, and just 15 % (6 employees) were satisfied. On contrary, people were mainly responding negatively - 38 % (15 employees) replied they were dissatisfied, and 30 % (12 employees) were strongly dissatisfied. One of Microsoft desires is to have fully satisfied employees, but this fact learned from Graph 3 indicates some gaps in the workspace that caused dissatisfaction.

In the theoretical component, there was one part dedicated to the problem with “Choice” of rooms. It was said that most of employees need some privacy or more quiet rooms while working on difficult and focus-demanding tasks. Employee C is reacting: *“I don’t think in general employees were dissatisfied with the workspace. They couldn’t have privacy, that is true, but they collaborated very well. Whenever employees were dissatisfied with something, they could share the problem with managers during the regularly organized meetings, and managers were dealing with it. It wasn’t a common thing at all. Microsoft really cares about its employees’ comfort. When employees had a meeting with clients or any presentation, they were provided meeting rooms, and there is rarely a problem with availability.”*

21 meeting rooms were provided for employees, either for internal purposes, meant only for employees of Microsoft, or external purposes, meant for employees of Microsoft having meetings with clients or partners. Rooms had to be booked in advance through a special internal

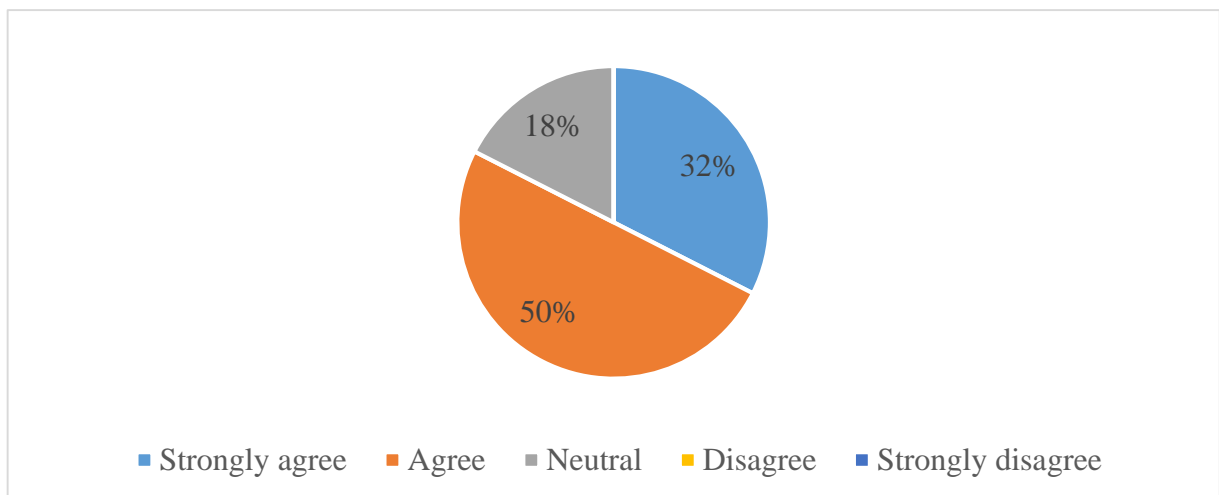
application that shows which meeting room is available at what time, and how many people the room can fit. Employee D supports it: *“This system is perfect, I could just go through meeting rooms according to how many people I invited, and book it. This is really convenient, and saves a lot of time, I like it.”*

In case that event had more than 10 participants, the hostess must have been ordered without exception to ensure drinks, other refreshments, and also take care of the meeting room when finished to leave it in original condition. This enhances the company’s reputation and image, and also leaves the participants with a positive impact.

What also enhanced the good atmosphere in offices were very good access to the daylight. As visible on the map of the workplace in **Appendix 3**, 2/3 of the workspace was equipped with windows, which provided a natural lighting, and at the same time nice view outside. Employee D says: *“This was a very positive factor, I have to admit it. As I had noticed, many companies struggle due to lack of daylight, but we on contrary were surrounded by windows, and most of the days we didn’t have to use the regular lighting at all. Regular lighting is very irritating for my eyes, especially because I wear contact lenses.”*

As a survey proves, overall were people very satisfied with the natural light at the Open Space, as depicts Graph 4.

Graph 4: Employees’ perception of having access to the natural light at Open Space

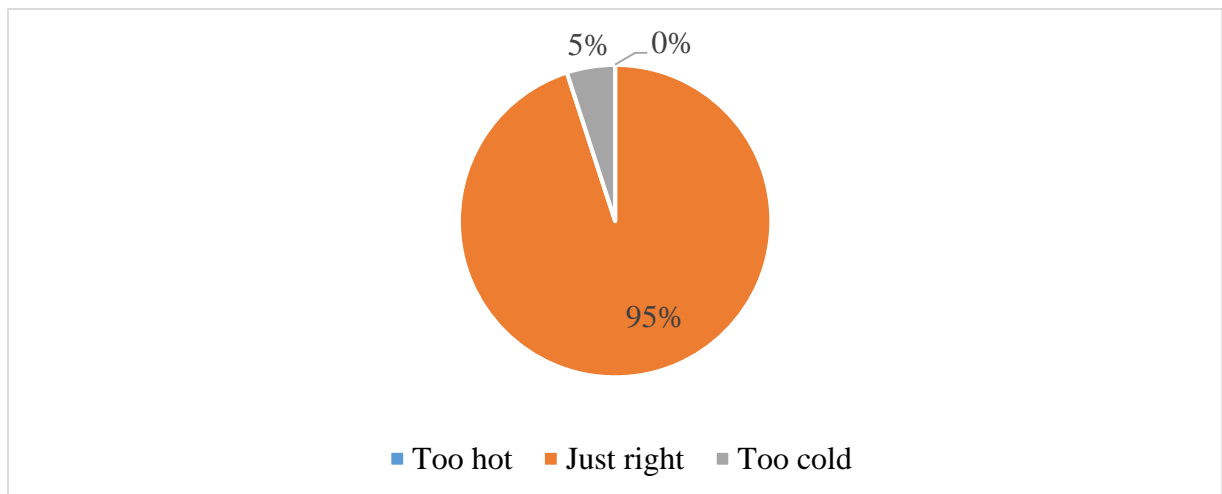


Source: own creation based on survey

No employee was dissatisfied with the access of natural light, on contrary, 32 % (13 employees) were highly satisfied, and 50 % (20 employees) were satisfied. This shows a very good choice of the building and its situation. As mentioned in the theoretical component of this diploma thesis, natural light has a positive impact on human beings and helps people to regulate circadian rhythms and increase serotonin, which stimulates mood and relieves stress, and also helps to adjust the sleeping hours. Employee D adds: *“This is true, I could notice, especially during those very sunny days, that people didn’t have sleepy tendencies. On contrary, it was rising employees’ moods.”*

Also, the temperature was established well in Open Space, as displays Graph 5.

Graph 5: Employees satisfaction with the temperature at Open Space



Source: own creation based on survey

As Graph 5 illustrates, 95 % (38 employees) replied they found the place with “Just right” temperature. The rest of 5 % (2 people) responded it was too cold. There should be mentioned that those 5 % respondents were woman, and as generally known, woman are more susceptible on a temperature.

In the Open Space layout, employees could manually adjust the temperature according to their needs. Even though the rooms were assigned for 10 to 50 employees, as Graph 5 shows, dealing with the temperature wasn’t an issue. Employee A said: *“The thermal comfort and*

temperature were well managed. We were provided air conditioning which is not really common in the Czech Republic, and sometimes, especially during the extreme summer heated days, we set up lower temperature. This was very useful. During those hot days I would honestly rather be at work than home. Also the air quality was good. The company was changing the filter quite often so it didn't cause the dry air."

For employees, Microsoft provided hot and cold drinks, cookies, and brought fruit every Monday and Wednesday. Employee D adds: *"This fact contributed to the employees' satisfaction. When we wanted to take a break or just get refreshed, we went for a coffee. The coffee machine was quite good which is very important for most of the people here in Microsoft. In many companies, they have the vending machines for drinks that employees have to pay for, but our company treats us well in this matter, and provides all that stuff for free."*

In terms of communication, the company's culture built on open debate since the beginning. Regularly, employees had an opportunity to discuss issues related to their positions and their satisfaction in the team with the supervisor. Internally, Microsoft had so called program MYCD (Mid-Year Career Discussion) where employees had a chance twice a year to express their opinion about the company and internal flow, evaluate the past 6 months, and set up new goals for the next semester. This way everyone was clear about their tasks and could estimate how much time it would take them to have it done. Along with this program, Microsoft was supporting employees in their growth by regularly organized language courses and courses enhancing skills development, such as presenting, time management, assertiveness trainings, and so on. As further benefits, employees could borrow GPS navigations or roof racks for skis; they were receiving gastro vouchers, flexi pass, and more. This was a very important fact that was enhancing employee motivation and satisfaction in the company.

Introduction of flexibility and mobility in Microsoft, s.r.o., Prague

One of the biggest changes in Microsoft's policy happened in 2013, when the company's management introduced flexible hours for employees, and an option to work from anywhere.

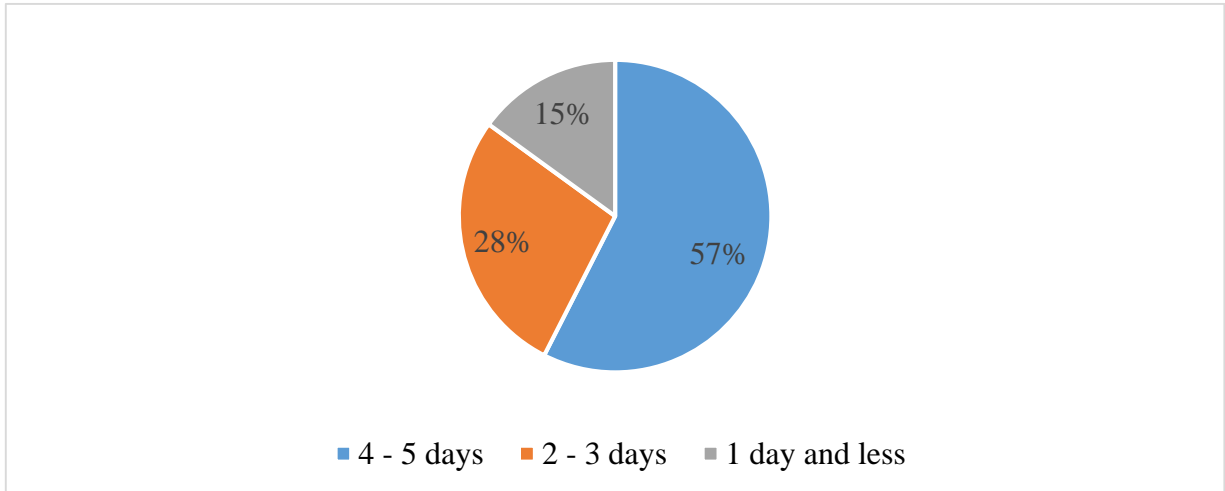
This meant that employees no longer have to come to work, but could do it anytime and anywhere. This was a significant breakthrough in the company that started a completely new era. Microsoft as the multinational IT leader set an example to other companies and began to live the philosophy of “free employees” that are allowed to work practically from anywhere on the world. This way Microsoft started to prove the vision that the company is in general promoting to customers. Employee A says: *“This policy wasn’t possible before due to the underdeveloped technology. But now, even if you go to the forest or you are on a different continent, the internet is usually available anywhere, which - with combination of computer or mobile phone - is all you need for work. Due to the cloud² all information is saved virtually, thus needed information can always be reached through any single device. The way Microsoft works now proves to the world their vision lives. If the position allows it, the employee doesn’t have to be physically at work at all. The most important thing is to have work done.”*

Microsoft is one of the very first companies that set this trend of mobile and flexible employees that are using advanced technologies.

Graph 6 depicts how many days a week survey respondents spend at Open Space.

² Cloud, or also cloud storage is defined as the storage of data on-line in the cloud, where a company's data are stored in and accessible from multiple distributed and connected resources that comprise a cloud. Cloud provides the benefits of greater accessibility and reliability; strong protection for data backup, archival and disaster recovery purposes, and rapid deployment (Beal, 2016).

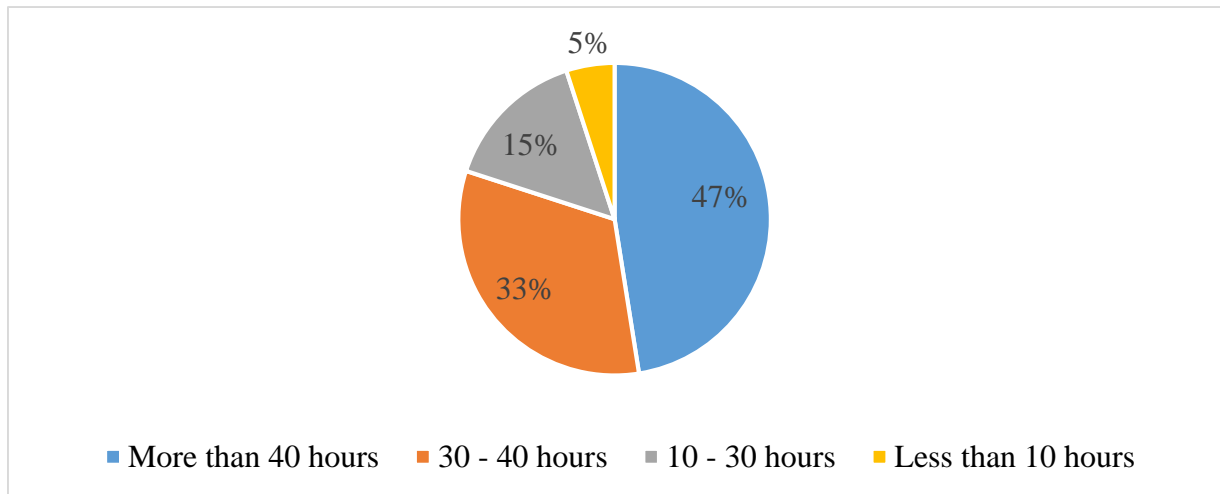
Graph 6: Days per week employees of Microsoft spent at Open Space approximately



Source: own creation based on survey

Out of 40 employees, 57 % (23 employees) replied they spent about 4 – 5 days per week at work, 28 % (11 employees) about 2 – 3 days approximately, and 1 day or less spent at work 15 % (6 employees) of all surveyed people. Employee B reacts: *“These results don’t surprise me and I would say it is generally true. Since people have the option to work from anywhere, it visibly increased their productivity. Sometimes, you are just tired and know you would do your work much more effectively later that day, and so you just do it as you wish. Of course there are positions that don’t allow this, such as analyst or account manager, but most of the positions are very flexible here.”* Graph 7 below shows how many hours approximately employee spent at work in the Open Space.

Graph 7: Hours per week employees of Microsoft spent at Open Space approximately

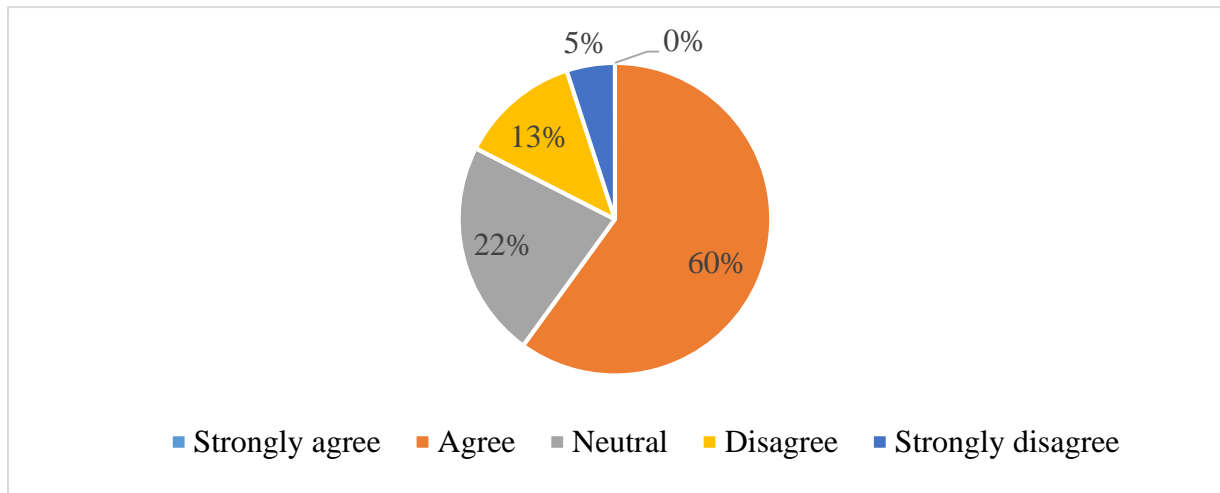


Source: own creation based on survey

Graph 7 illustrates very distinctive results. Only 47 % of employees (19 employees) responded they spent 40 or more hours at work, which was a little bit less than a half of the employees. If before the introduction of flexible hours 100 % of employees were working in Microsoft 40 hours per week, these results are alarming. Employee C said: *“When the option of mobile and flexible work were introduced, employees had a “wow” effect, and started to use it more often. Also, due to the sound level at the Open Space, employees were preferring to spend time somewhere other than work. Internal research applied on the whole company showed that about 30 % - 40 % of employees are always missing at work. We realized that even if the employees were not physically at work, we still pay the maintenance fees and operational costs as if employees were there. This was actually one of the reasons we started to actively think about changing the workspace.”*

Employees were also asked about their satisfaction in general with the Open Space. The results from the survey are displayed bellow in Graph 8:

Graph 8: Employees' satisfaction with the Open Space in general

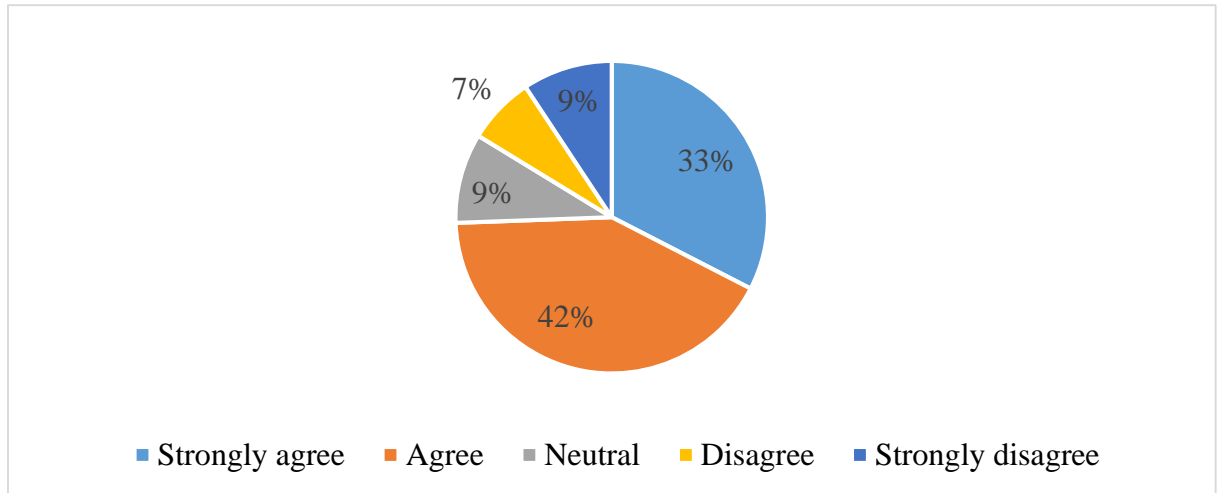


Source: own creation based on survey

24 employees (60 %) were satisfied with the Open Space, which seems to be a relatively positive result. 18% of employees reacted negatively, indicating that they weren't satisfied with the workplace in general (13%) or were strongly dissatisfied (5%). Additionally, none of the surveyed employees replied they were strongly satisfied. When summarizing the results, it can be said that the workspace had some limitations. Employee E says: *"I would credit this result to the level of sound of the workspace that is closely related with amount of people working at one room, and lack of options with the meeting rooms and quiet rooms in general. We want to provide employees the best place where they can cooperate, and sometimes, they just didn't have enough options to do so even though over-all it was a very sophisticated workspace. A very good and friendly atmosphere was obvious in the workplace."*

Responses to the question of whether or not the Open Space allows employees to collaborate with those in their immediate workgroup are illustrated in Graph 9 below:

Graph 9: The Open Space allows employees to collaborate with those in their immediate workgroup



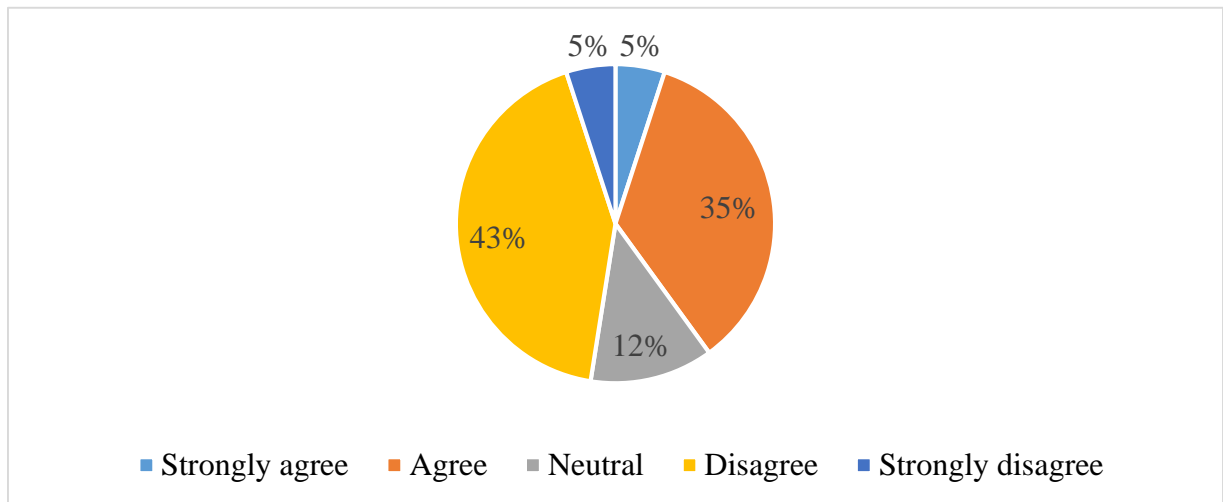
Source: own creation based on survey

Graph 9 portrays disagreement in employee opinions. 10 % (4 employees) were strongly dissatisfied with the current situation, and 20 % (8 employees) were dissatisfied. 18 % had a neutral feeling (7 employees), and this all stands for gaps in the working space. Employee D adds: *“Since the flexibility and mobility for employees were introduced, it was difficult sometimes to reach colleagues from our immediate workgroup to cooperate. This needed a change or some system so others knew where the person is or when he or she will come to the workspace. It needed some coordination, which we solved during the following several months³. All changes are going through some process and nothing can happened all of a sudden. In general, we were very satisfied with the results of employees’ outcomes and the way they were dealing with their tasks. We provided many trainings for them to learn to cooperate better, etc., and also established internal chats and pages for communication within employees.”*

³ Note: as a solution was introduced an internal application called “Find me” that has everyone installed on personal phone. It sensors the movement of each employees and shows where exactly they are at the building, and even shows their concrete place at the room. This way employees can easily find each other without having to ask the person about the position. Application was firstly introduced at the new workspace of Shared desk where it is very useful due to the free desk policy.

Graph 10 below displays whether or not employees think the workplace enables them to be effective and productive in their role.

Graph 10: The Open Space enables employees to be effective and productive in their role



Source: own creation based on survey

43 % (17 employees) didn't agree that workplace enables them to be effective and productive in their role, which is the most common response. On top of that, 5 % (2 employees) felt strong dissatisfaction with it. It might be all connected with the sound level. Employee E says: *“Open Space layout leaves little room for people to personalize their space. The high level of noise caused employees to lose their concentration that was probably leading to lower productivity and efficiency. The Open Space was mainly created for people to collaborate, and the idea was that employees can move around and interact freely. We wanted them to promote creative thinking that would help them solve problems better, but I feel it doesn't always work like that. If employees get to work and phones are ringing quite often as people collaborate around others, it ruins the concentration. This is most probably the reason our employees were replying quite negatively, as the survey shows. Most of the time people don't realize it at the time, but our brains respond to the distractions. In the new space that we have created (note: Shared Desk) we tried to solve the problem with distraction and choice of the quiet rooms.”*

4.4. First thought of the Shared Desk in Microsoft

In 2013 Microsoft started to actively think about changing the concept of the offices and developing a completely new and modern working space. There were couple of main reasons for this decision.

Firstly, since Skype was globally bought by Microsoft in 2011, several employees working for Skype in the Czech Republic merged with employees of Microsoft and moved to the same building in Vyskocilova street, Prague. The rest of the Skype employees were located in a different part of Prague, in Andel. Due to this separation, it was difficult for employees of Skype to cooperate and extra operating costs were incurred to cover both places. The thought was to connect all employees underneath one roof, and thus decrease the operating costs.

Secondly, when Microsoft measured the occupancy of the previous workplace, Open Space, the statistics revealed that during the busiest days of the week there were about 60 % - 70 % out of all employees, and 30 % - 40 % were always missing. This caused another extra operating cost. The internal statistics also revealed, as discussed in the previous section, that some types of employees spend more time working at the office, and on contrary, some of them prefer to be mobile and flexible working from home or from different places. They distinguished five types of employees based on their work style. All of them are shown in Table 1:

Table 1: Five types of employees working for Microsoft based on their work style, their definition and typical roles

Work style	Definition	Typical roles
A	Is at the office less than 30 %	Consultant, Solution Specialist, Architect, Technology Specialist
B	Is at the office less than 70 %	Evangelist, Support Account, Engagement Manager
C	Is regularly in the office, but away from desk more than 50 %	Marketing Manager, Account Manger
D	Is at the office working at the desk more than 50 %	Analyst, Editor, HR, Admin Support
M (Manager)	Is very often out of the office	Management

Source: Microsoft Workplace Advantage Program, 2012

These statistics helped the company better understand what typical roles are at work more or less and think of the rooms that are needed the most. After all, Microsoft set a goal to decrease the individual workspace by about 30 % and increase the collaboration space by 30 %. This way they would save money on operating expenses.

In 2014, Microsoft started to actively look for suitable premises to set up a new workplace. The vision was clear – to design a workplace that would meet all needs of employees and thus enhance innovation and productivity. Also, to design a workplace where employees would have more variety of rooms to collaborate, with the latest technology, and that would be perfectly showcasing Microsoft brand and technologies.

To create a workplace, it took Microsoft one and a half years, and executives, designers, and even employees participated. On 5th October, 2015 they introduced a new workspace that consists of 87 rooms – 41 conference rooms for internal or external purposes, 22 focus rooms for small group meetings, 20 phone booths for phone calls or 1x1 meetings, and 4 HUBs for work seating or informal meetings. There are also a few informal seating areas for work or

meetings. Each room has a different name that was chosen by employees. Rooms called Sunset, Nirvana, U2, Columbia, among others can be found in the building. All together Microsoft would be able to fit at least 733 people (note: there is 0.8 seat for each employee).

With the new workspace, Microsoft also introduced a new culture based on trust and personal responsibility for the results. Instead of traditional control of appearance and monitoring worked hours, they left the management of their own time from wherever they want and whenever they need up to the Microsoft employees. What they require is to accomplish their tasks, to collaborate with their co-coworkers on common projects, and to be available for colleagues and customers when needed.

Shared Desk in its Principal

This working layout was created according to the latest trend, and in general doesn't look like a workplace at all. Most likely place turned into a "fun house" that is globally already well known, for example, from Google. *The principle is simple – no one has a dedicated desk, nor office room.* When employees come to work, they pick the place that is not occupied at the moment, and that they like. When employees work on a task that doesn't require their full attention, they can pick the area that looks like a cafeteria. Internally, those areas are called "HUBs". In Microsoft, there are 4 of these types of areas, and all are designed in different styles. In general, HUBs are equipped by long tables, several informal tables and chairs. One example of a HUB was added to **Appendix 4**. HUBs provide coffee machines and fridges that are regularly filled. Employees can get drinks including Red bull, several types of baguettes, ham, cheese, and more.

Provided are also rooms similar to Open Spaces, so called Collaborative Tables. These rooms are equipped by tables, chairs and screens. Employees bring their own computers and connect them with the provided screen. Thus, they are ready to work from any desk that is available.

When employees want to make a call, they are required to use the phone booths (internally called call buses) that are meant for these purposes. This way they don't distract other employees from work.

While collaborating with other employees, they can easily book one of the meeting rooms that are provided for 2 to 157 people. They have the same booking system as in the previous workspace - an application where employees can see which meeting room is available and how many people the room can fit. Each meeting room is in a different style. Some of them look very elegant and representative that are suitable for meetings with clients, and some meeting rooms look more casual, such as, for example, the one that looks like a pub. Most of them are also equipped with the latest technology showcasing Microsoft's products live, thus clients can see them, try them and feel them themselves. This supposed to raise the awareness of the technology and its usage, which is, as discussed in the Theoretical Component, one of the trends nowadays. A picture of one meeting room is in **Appendix 5**.

Microsoft was also thinking about the parent employees who need to take their kids to work sometimes, and created one office room that is suitable for these purposes. Interesting about this room is that it was all designed by an 8 year old kid that personally suggested what equipment to choose, and what color the room should have. The room has a TV, Kinect, tablets, and toys. On the other side of the room is a working desk for an employee equipped with a screen and chair. There, the employee can freely work while his or her kid is playing next to him.

Since no employee has a dedicated working station, they have to pack all their belongings from the desk they were working whenever they finish. All employees have their own lockers where they are supposed to store all belongings. One of the lockers is pictured in **Appendix 6**.

The Process of Creating the Shared Desk in Microsoft

The process of creating a new workspace took 1 year. Employee E said: *“Now, the culture of Prague subsidiary reflects the characteristics of global Microsoft with the open-door policy, and with a friendly environment where everyone is calling each other by name, no matter if it is the CEO of the company or a secretary. This is not very common in the Czech Republic where people are used to refer to each other formally.*

All Microsoft employees were participating on the real designing of the workplace. We sent everyone an invitation to choose every piece of furniture that is in the workspace. When we were choosing chairs or tables, we brought all possible options to the company and showed employees live how it looks, thus they could try it all themselves and decide. Then, we did a survey where everyone was voting for it. Democratically, we picked the pieces that were desired the most. This included sofas, decorations, plants, color of the workplace, etc.

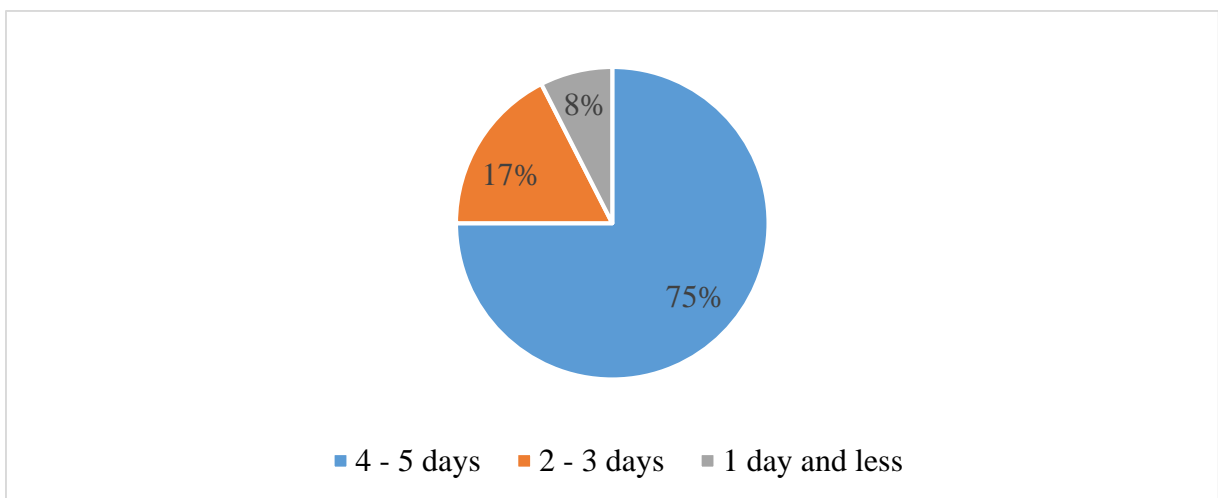
Now, almost 600 employees work in the building and occupy 5 floors in Vyskocilova Street, Prague. We unconsciously chose a place just next to the previous building which was very convenient, thus for employees it didn't make much difference in terms of transportation. All employees of Skype moved in as well so now, everyone is underneath one roof, and it is very easy to collaborate – as we wanted.”

4.5. Employee Perception about the Shared Desk

The following section depicts how employees feel about the new workspace - Shared Desk. The questionnaire was answered by 40 employees, 26 males and 14 females.

Graph 11 below shows how employees replied to the question “How many days per week do you spend approximately at Microsoft?”

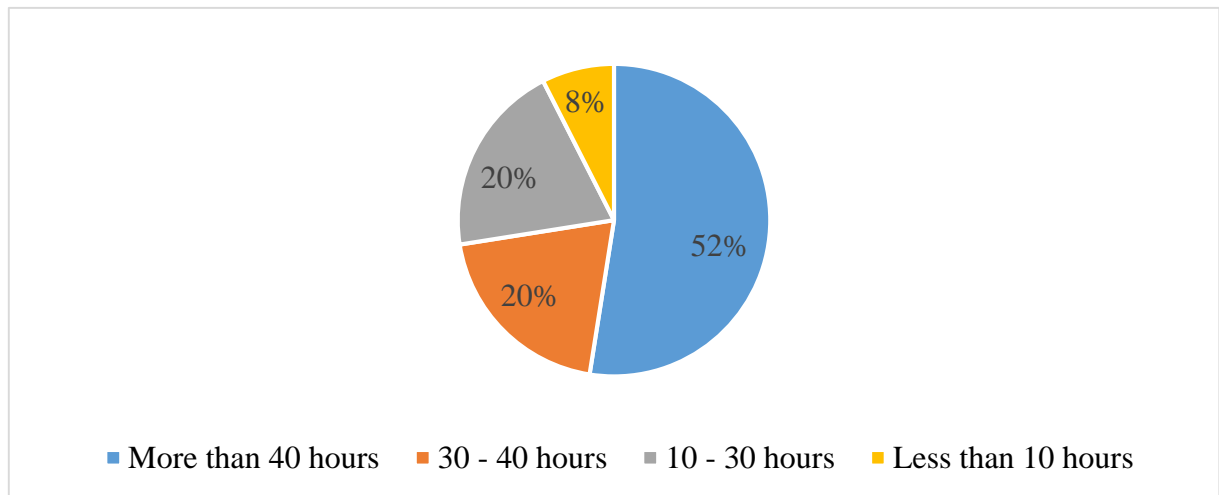
Graph 11: Days per week employees of Microsoft spent at Shared Desk approximately



Source: own creation based on survey

According to Graph 11, 75 % (30 employees) replied they spend 4 – 5 days per week at work. Comparing to the previous situation in the Open Space where 57 % (23 employees) spent about 4 – 5 days at work, there is visible raise. In Shared Desk, there are 8 % (3 people) who spend 1 day and less at work. Before in Open Desk, there were 15 % (6 people) who were at work 1 day and less. As an additional question to find out about employees’ presence at the workspace, the questionnaire asked how many hours approximately employees spend at work per week. Results are visible in Graph 12 below.

Graph 12: Hours per week employees of Microsoft spend at Shared Desk approximately



Source: own creation based on survey

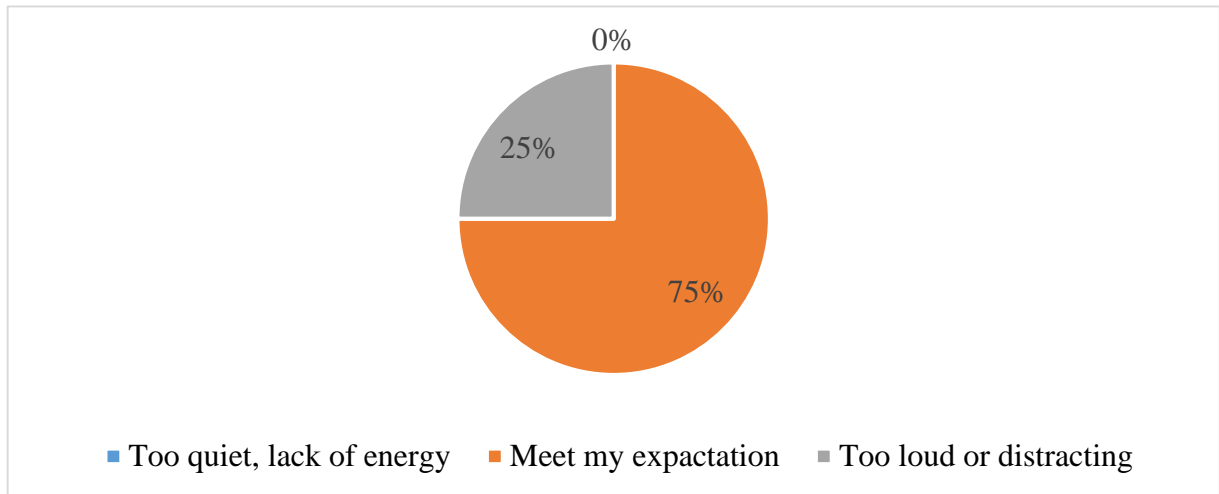
52 % (21 employees) spend more than 40 hours at work, 20 % (8 employees) spend 30 – 40 hours at work, 20 % (8 employees) spend 10 – 30 hours at work, and 8 % (3 employees) spend less than 10 hours at work. In Open Space, there were 47 % (19 employees) that spent more than 40 hours at work, 33 % (13 employees) that spent 30 – 40 hours at work, 15 % (6 employees) that spent 10 – 30 hours at work, and 5 % (2 employees) that spent less than 10 hours at work. From the results, it is visible that more employees are spending more time at the workspace in general.

Employee A comments on these results: *“Since the workspace offers more diverse workspaces, it raised the desire for employees to come to work and cooperate. They don’t feel*

like at work, which was a purpose. When they are present at work, they can cooperate better. It definitely increased the satisfaction. Also, the level of sound decreased, which is also a very positive factor for employees.”

As Graph 13 illustrates, the level of sound improved.

Graph 13: Employees’ perception of sound level at Shared Desk



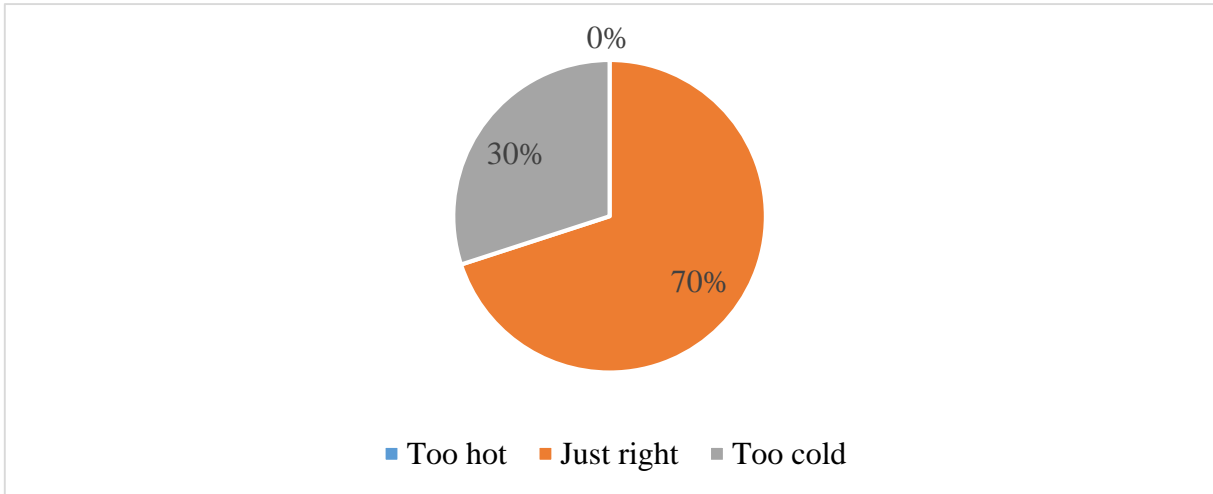
Source: own creation based on survey

A high increase in satisfaction with sound level is observed in Graph 13. For 75 % (30 employees) it is meeting their expectation, and only for 25 % (10 employees) it is too loud or distracting. In comparison with the Open Space, where 85 % (34 employees) were highly dissatisfied with the sound level, Shared Desk offers better conditions.

Employee A adds: *“Now, when employees have an option to work at different spots, and can choose whether they want a more quiet place or a louder place, the situation got better. The internal policy orders employees to hold phone calls in specially designed rooms. They are small but comfortable, and I have to admit that most of the employees respect these rules.”*

On contrary, the employee satisfaction with temperature decreased, as shown below in Graph 14:

Graph 14: Employees satisfaction with the temperature at Shared Desk



Source: own creation based on survey

Before the transition, there were 38 employees satisfied, and only 2 of them found the temperature too cold. Now in Shared Desk, there are 70 % (28 employees) satisfied with the temperature, and 30 % (12 employees) are not satisfied about the temperature being too low. Employee B defends the situation: *“Because the transition was done very recently, not everything is highly adjusted to employees’ needs yet. But we are working on it. Before, they could adjust the temperature themselves, but now it is made centrally. I strongly believe that this shortage will be fixed soon.”*

Employees have many options to choose a workstation depending on the task they are working on. The questionnaire was finding out where people spend the most time. Results are visible in Table 2:

Table 2: Type of work setting that employees use the most often at Shared Desk

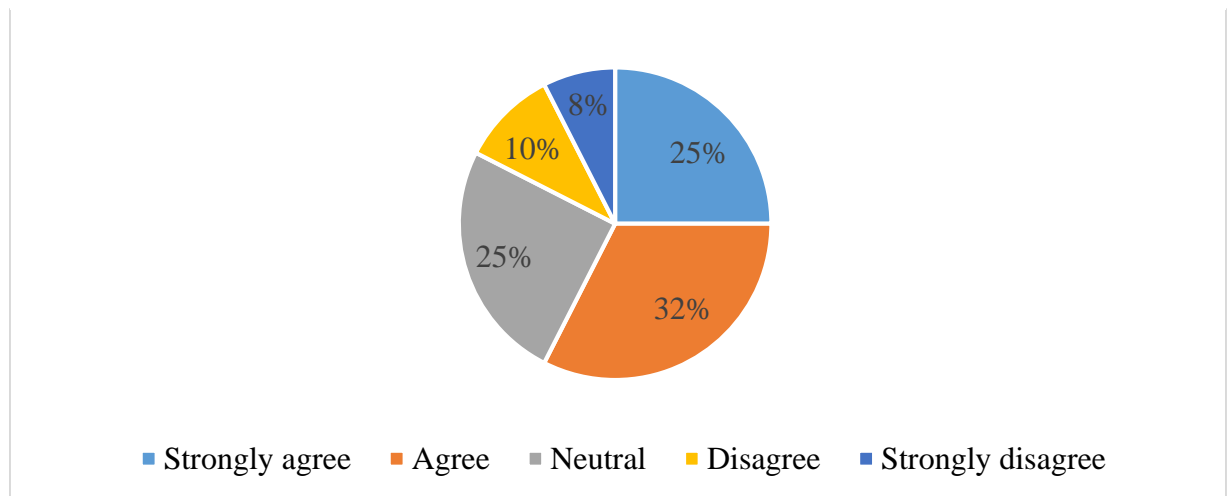
Type of the working setting	Employees	Percentage of employees
A shared team table/collaborative table (Open Space)	32	80%
A meeting room	2	5%
An informal work-setting such as a break-out zone or "Hub"	1	2%
Call bus (call rooms)	2	5%
Other	3	8%

Source: own creation based on survey

80 % (32 employees) responded they occupy the Collaborative Tables that remind the Open Space layout the most. Employee B says: *“It doesn’t surprise me. Employees have adjustable chairs with desks there that are very comfortable. Workstations are ergonomically well-installed which is supposed to prevent back and shoulder pain. These rooms are more formal than other rooms that are here, and also less distractive than HUBs for example. To HUBs, people come mostly to have informal meetings, to get distracted, or just to have a coffee. But, the area is louder which might be distractive for many workers. That is a reason why people spend the most time in Collaborative Tables.”*

Rooms, such as HUBs and call rooms are new in Microsoft; they weren’t available in the previous layout, Open Space. Both of these types of rooms significantly relieved the sound level, which in turn helped employees be distracted less. The questionnaire reveals the results of how employees feel about the distraction in Graph 15 below:

Graph 15: Employee perception of Shared Desk's conduciveness to focus and concentration on tasks

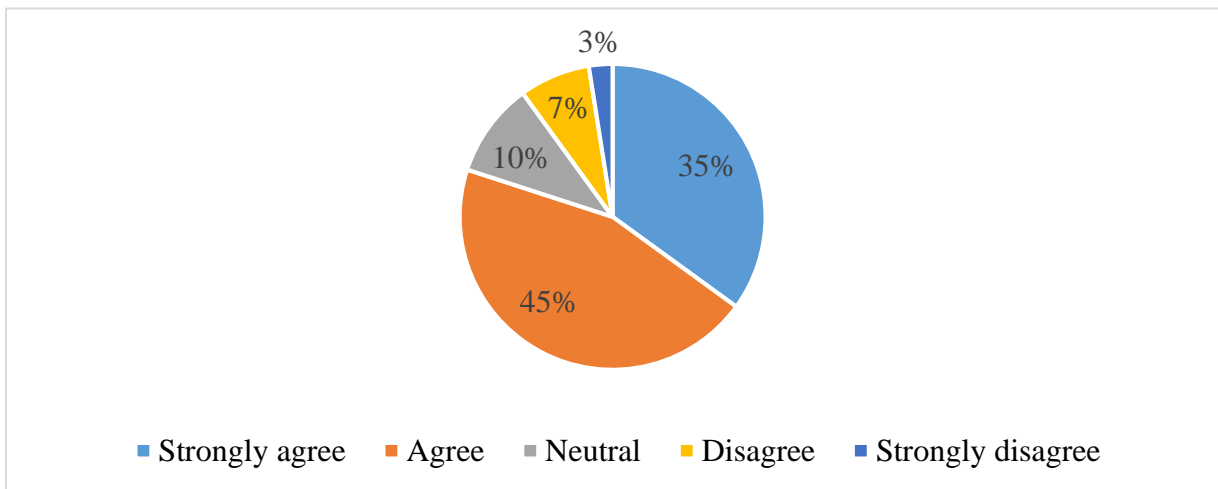


Source: own creation based on survey

Graph 15 depicts that in general people are satisfied in terms of focus and concentration on a task when needed. There are 25 % of employees strongly satisfied, and 32 % are satisfied. In comparison with the Open Space, there was no person strongly satisfied, and only 8 % were satisfied. This shows increased employee satisfaction with the new working layout. Employee A ads: *“The employee satisfaction with the new working layout is noticeable in Microsoft. It is all connected with the fact that employees have more options regarding where they can work and collaborate, and at the same time they can choose if they want to be distracted or not.”*

The questionnaire also probed the possibility of workers collaborating with those in the immediate workgroup. The results show that comparing to Open Space, the new workplace slightly improved this option and created a pleasant working environment that gives people the right conditions to cooperate. Graph 16 portrays the evidence.

Graph 16: The Shared Desk allows employees to collaborate with those in their immediate workgroup



Source: own creation based on survey

Employees were mostly strongly satisfied, concretely by 35 % (14 employees), and satisfied by 45 % (18 employees). Only 1 person replied that was strongly dissatisfied, and 3 people were dissatisfied. It can be due to the diverse employee perception of perfect workspace - not everyone likes the same conditions, and the fact that only 4 people (out of 40) were dissatisfied is actually an excellent result. In comparison with the Open Space - 42 % employees were strongly satisfied, and 33 % of them were satisfied - can be said that the situation in Shared Desk got slightly better. Employee E states: *“Not only the workspace itself helped the collaboration but also the technological equipment that facilitates work for employees. A lot of our meeting rooms feature TV, equipment for video conferences, and projectors for presentations. Some of them also have a Kinect and Xbox, thus it makes it easier to show clients how products work in a real life.*

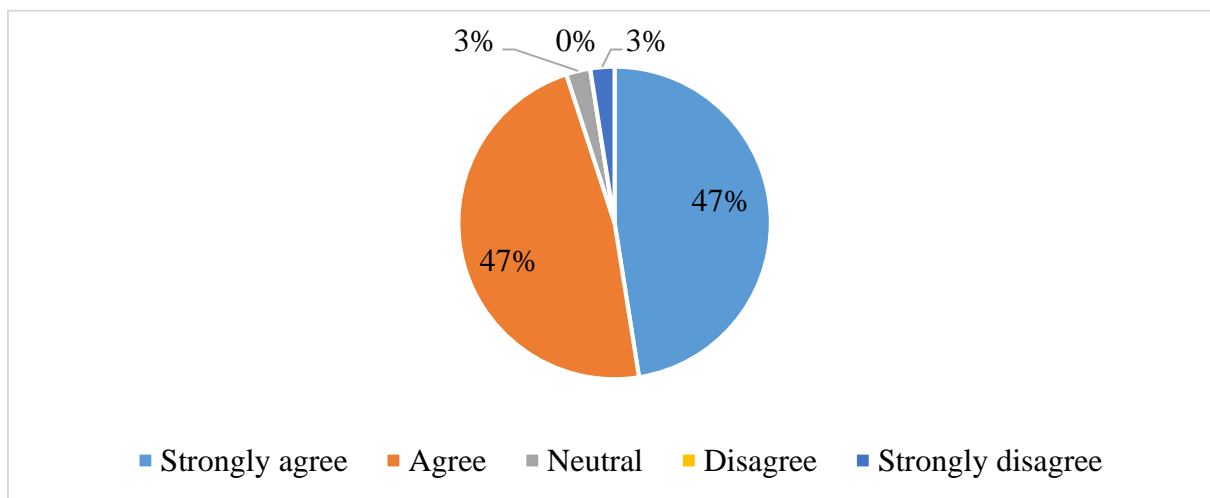
Also HUBs significantly increased the cooperation and in general also the relations among employees. While working there, employees have a feeling they are not at work and they don't work under pressure. HUBs look like cafeterias, and people come along there, sit, have a coffee, and freely discuss. They don't need to follow any “Don't disturb” policy there, thus the collaboration is very easy. All furniture and equipment is chosen by workers. The choice of it went pretty smoothly with one exception - when it came to selecting coffee machines, it turned

into a huge argument between employees. No one would have actually guessed before how important coffee is. 12 coffee machines were brought to the company that employees could personally try, and had to say which one they want. After all, it was impossible to choose just one so we unexpectedly ended up getting 3 different types of coffee machines – one with ground coffee, one capsules coffee, and one leverage coffee.

Over-all, when we did the internal research in Microsoft, we found out that employees are happier in the new working layout, and more satisfied, and they are even more excited to come to work than before.”

The questionnaire confirmed the fact that employee E said about the increased employee satisfaction. As Graph 17 reveals below, people in general are more satisfied now than they were with the Open Space before.

Graph 17: Employees’ satisfaction with the Shared Desk in general



Source: own creation based on survey

Graph 17 portrays that 47 % (19 employees) replied that they are strongly satisfied with the Shared Desk, and 47 % (19 employees) are satisfied. Only one employee replied that he/she is strongly dissatisfied, and one of them is dissatisfied. Overall, these are great result that reveal important progress in terms of working environment. With the Open Space, there was no person strongly satisfied, 24 employees (60 %) were satisfied, 5 employees (13 %) were dissatisfied, and 2 employees (5 %) were strongly dissatisfied.

Then, the questionnaire also focused more into certain details regarding current workspace, and employees had to rate their satisfaction with it. Table 3 depicts employees' answers.

Table 3: Concrete rating by employees of satisfaction with the current workspace, Shared Desk

	Highly satisfied	Satisfied	Neutral	Dissatisfied	Highly dissatisfied
Meeting rooms	21	17	1	1	0
Informal work areas/ "HUBs"	31	7	2	0	0
Accessibility of colleagues	15	18	6	1	0
Variety of different types of workspace	26	12	2	0	0
Working equipment (monitors, chairs, desks...)	16	14	6	4	0
Ability to personalize your workstation (for example own pictures on your desk...)	6	5	9	9	11
People walking past your workstation	2	16	18	1	3
Personal storage (lockers)	11	11	8	9	1
Colors of the workplace in general	16	16	7	1	0
Plants and greenery	12	7	13	6	2
Air quality	10	15	5	9	1
Office lighting	17	20	2	1	0

Source: own creation based on survey

As visible from Table 3, employees are very satisfied with the HUBs. No employee replied he or she is dissatisfied with HUBs at all. This is a positive fact and leads to the conclusion that workers in general like informal workspace layouts, which is a trend nowadays - as learned from the Theoretical Component. Also, the variety of different types of workplaces is very well rated, which was one of the purposes for creating this new workplace, Shared Desk.

The questionnaire also reveals that employees can reach their colleagues when needed well, as was already discussed in the previous part of the practical component. The fact that people walking past each other's workstation was not found to be a problem by many employees is a positive factor. With this matter, only one employee was dissatisfied and 3 people were strongly dissatisfied. In reality, the Shared Desk is even more "opened" than the Open Desk before, but employees found the Open Desk more distracting. In the Open Space, there were 14 employees dissatisfied with people walking past their workstation, but in the Shared Desk, there were just 4 employees dissatisfied. It can be considered as a very good outcome.

On the contrary, people complained the most about an ability to personalize their workstations. Actually, workers cannot personalize it at all in the Shared Desk since they don't have assigned desks. Whenever they come to the office, they choose different spot, and when they are done, they have to pack all their belongings to the small lockers that are placed on the sides of workplace. One of the example of lockers is placed in **Appendix 6**. Worker F says: *"I don't like this system with the lockers at all. You never know who worked on the desk before you so I personally always clean the keyboard before starting to work, because I am finding it dirty and unhygienic. Even though cleaners come to clean the workplace a lot, I just don't feel comfortable with it. Due to this reason I have noticed that a lot of my colleagues are bringing their own keyboards and mouses from their home."* To support this comment, lockers were the most complained-about item in this survey question. 9 people (23 %) were dissatisfied with them, and 1 person was strongly dissatisfied.

Another much complained aspect by employees were plants and greenery. In fact, in Microsoft nowadays there are not many plants present. Two employees replied that they are strongly dissatisfied, and 6 of them are dissatisfied. Altogether, there are 20 % of employees dissatisfied with this matter. This might be connected with another poorly managed thing and it is air quality. As discussed in the theoretical component, plants and greenery help to reduce dust and other air pollution, thus by placing more houseplants to the workplace, Microsoft could support this component. One of the employees personally wrote a note to the survey that the air is too bad at the workplace, and that the filtrations are not changed often.

The opinion about the colors at the workplace came out from the questionnaire that are well managed. The Microsoft is mainly painted by white color which makes the workplace look

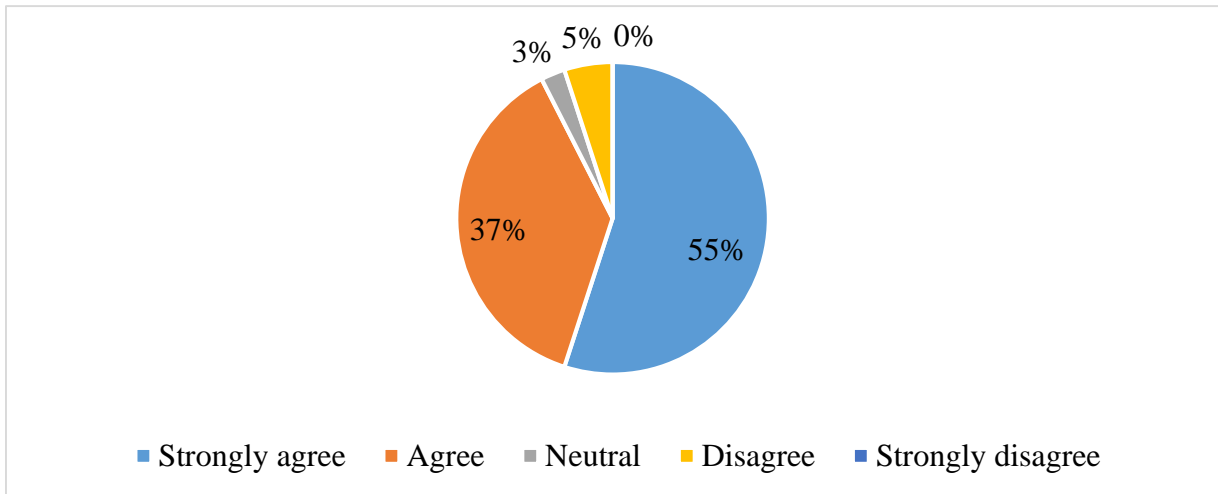
more spacious and bright. In the Theoretical Component was discussed that colors have a psychological effect on people and can impact the way they feel and think. Concretely was stated that *“white color is considered as a very modern and clean color, and has a sleek look. In general, this color is connected with a good feeling, calmness, and higher focus on the task”* (Devenish, 2016). Employee F adds: *“White color is really well chosen color by us - employees. I have to admit that I personally voted for this color in many surveys. On the other hand it has some poor sides, such as higher tendency to get dirty. Microsoft will have to repaint it more often than it would be with other colors. Already now, which is not long time ago since we moved in here, are some walls dirty.”*

To summarize Table 3, all outcomes were counted together. There are 183 responses from employees that replied they are strongly satisfied with discussed aspects, and 152 responses from employees that replied they are satisfied with discussed aspects. On the other hand, there are 42 people that replied they are dissatisfied with discussed aspects, and only 18 employees are strongly dissatisfied with the discussed aspects. In total, there are also 79 neutral responses. The difference between satisfaction and dissatisfaction is clearly visible - in general employees are very happy with the current workspace but there are still some gaps that Microsoft can improve.

The unstructured interview included a discussion regarding the new working layout meeting expectations and saving operational cost. Employee D replied: *“The CEO of Microsoft in Prague stated that the new workplace did help the operational cost and now the Shared Desk cost less, but these information are very confidential and unfortunately no one can provide it.”*

As an additional question about employees' satisfaction in the survey, employees were asked if they are satisfied with the **interior** of the Shared Desk. The results are illustrated in Graph 18.

Graph 18: Employees' satisfaction with interior of the Shared Desk

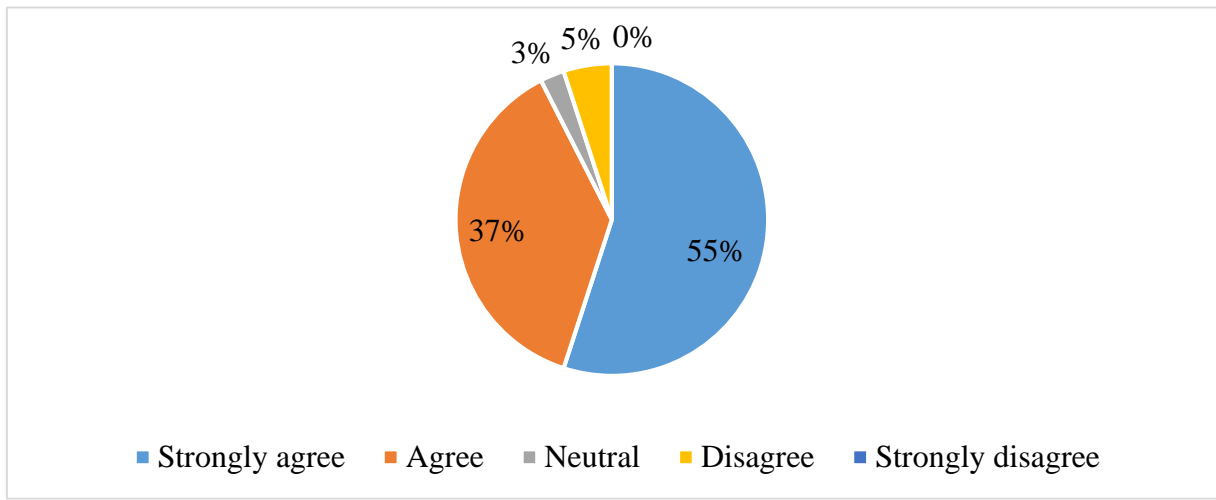


Source: own creation based on survey

The results from Graph 18 confirm the previous summary that in general employees are very satisfied with the new working layout. 55 % (22 employees) responded they are strongly satisfied and 37 % (15 employees) are satisfied. Only 5 % (2 employees) replied they are dissatisfied. In comparison with the Open Space, there were no persons strongly satisfied, 7 people satisfied, 15 people with neutral perception, and 18 people dissatisfied. This shows the significant progress of the new workspace.

The last question asked employees if they think that the Shared Desk enables them to be effective and productive in their role. Answers were mainly positive, as displays Graph 19.

Graph 19: The Shared Desk enables employee to be effective and productive in their role



Source: own creation based on survey

Graph 19 illustrates highly positive effect of the workplace. The personal perception of most of the employees proves that the workplace enables them to be effective and productive in their role. 22 (55 %) employees replied that they strongly agree with the statement, 15 employees (37 %) agree, and only 2 employees (5 %) disagree. 1 employee had a neutral feeling. In the Open Space, there were 2 employees (5 %) that strongly agreed, 14 employees (35 %) that agreed, 17 employees (43 %) that disagreed, 2 employees (5 %) that strongly disagreed, and 5 people (12 %) had a neutral feeling with it.

Employee B commented on the results: *“The productivity really improved after the transition. Employees show significantly better results now that we are really happy about and ascribe to the improved working conditions. This survey proves what our internal survey did, that in general people are more satisfied with the new workspace, and they can collaborate better.”*

5. CONCLUSION

The aim of the diploma thesis was to examine Microsoft's transition of workspaces from Open Space to Shared Desk, and to compare employee productivity before and after the change.

In order to achieve this aim, theoretical component clarifies several objectives that are closely related with the topic. The first part defines employee productivity as a key source of organizational growth and competitiveness. Sometimes it is also being referred as workforce productivity, and means the result of the efficiency of an employee or a group of employees. There are several ways to detect employee productivity, either by use of qualitative methodology or quantitative methodology. For some companies measuring employee productivity with use of quantitative methodology is too difficult of a task or sometimes even totally inapplicable. Then, the solution might be to use qualitative methodology in form of comparison of employees' Key Performance Indicators (KPIs), or by applying a questionnaire addressed to employees that have to rate their own perceived productivity. This type of productivity detection – questionnaire - was also applied later on in the practical component on company Microsoft, CZ. There are several factors that influence employee productivity. The most important ones can be said to be job motivation and job satisfaction, both of which are influenced by the physical working environment. These factors are examined in the first part of theoretical component.

The physical working environment needs to be functional and attractive while simultaneously needs meeting various other requirements, such as health and safety, hygiene, comfort, convenience, and even creativity enhancement. By well-designing it, companies can very positively influence employee productivity. The second part of the theoretical component is dedicated this matter. It exposes 11 attributes of the workplace that have the most significant impact on employee productivity, either directly or indirectly. Among these factors are building; access to nature and views; daylight; noise control; human factors and ergonomics; choice; employee engagement, thermal comfort and temperature; color; crowding; and indoor air quality. Understanding the importance of these aspects helped to better understand and evaluate the workplaces of Microsoft, CZ.

Working environment is nowadays changing exponentially and globally. The trends and tendencies of today in terms of physical working environment reveal the third part of theoretical component. Besides the flexibility and mobility trend, which is also a much debated element in the practical component related to Microsoft, CZ, the section discusses networking, customer orientation, and energy sustainable workplaces. The majority of large companies are aware of these trends and tendencies and adapt their workplaces according to them. The theoretical component is concluded with this section, and the practical component is then discussed.

For 18 years, Microsoft, CZ was using Open Desk as the working layout, but over time, trends and tendencies changed and technology improved, and this working environment wasn't suitable for Microsoft anymore. Microsoft also realized that it was spending excessive costs associated with the operation even though many employees are not always present at work. This all led to the decision of creating a new workspace. On the 5th of October, 2015 Microsoft introduced Shared Desk – a workplace where no employee has a dedicated seat and that is enabling employees to flexibly choose where they want to work.

The practical component used a qualitative methodology with the aim of understanding employee's and management's personal perception of employee productivity before and after the transition. The component was conducted by 2 carefully elaborated structured questionnaires that have been taken by 40 employees as well as by unstructured interviews with open-ended questions held with 6 employees working on middle management roles.

The survey confirmed the hypothesis that Microsoft's transition of workspaces from Open Space to Shared Desk significantly raised the overall workplace satisfaction. Among other things, employees find the new workplace less distracting, and are offering better and superior working conditions that increased formal and informal collaboration between employees and thus increased individual and team productivity. At the same time, the new workplace led to the fact that employees come to work more often and spend more working hours there than under the previous working conditions with the Open Desk set up. This finding disproves the expected hypothesis that the new workplace will lead to reduction of working hours spent at work. On the other hand, even when employees come to work more often than to Open Space, the new working layout still helped to lower costs associated with the operation. This fact proves the last expected hypothesis, and thus all stated objectives were completed.

6. RECOMMENDATIONS

A recommendation to Microsoft would be to take better care of the air conditioning since one of the most complained-about aspects was the bad indoor air quality in the workplace. As discussed in the theoretical component, when employees are continuously breathing contaminated air while at work, it can cause them symptoms ranging from discomfort and changes in mood, to extreme reduction of their ability to work and illness connected with allergies, asthma, etc. Microsoft should make sure to change the filters more frequently as well as clean the air conditioning in general.

Another aspect that was complained about considerably was the temperature at the workplace that many employees found too low. Microsoft is setting temperature centrally so they should find a compromise among its employees.

After all, it must be said that Microsoft is paying great attention to its employees and treats them very well, thus there is no need to give any other recommendation apart from continuing to monitor trends and tendencies relating to the workplace environment in order to stay up to speed with the most productivity enhancing workplace environments.

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8. APPENDIX

Appendix 1: Questionnaire submitted to the employees before the change, in Open Space

Date of submission: 14th May, 2015

Date of completion: 25th May, 2015

1. What is your gender?

Male Female

2. How long do you work for Microsoft?

More than 10 years. 5 – 10 years 2 – 3 years Less than a
year

3. Employee type

Part time Full time

4. Age group

Under 25 25-44 45-64 65 and more

5. How many days in week are you approximately at Microsoft?

5 days. 4 – 5 days 2 – 3 days 1 day and less

6. How many hours per week do you approximately spend at Microsoft?

More than 40 hours 30 – 40 hours 10 – 30 hours Less than
10 hours

7. How are you satisfied with the open space in general?

Strongly satisfied Satisfied Neutral Not satisfied
Strongly dissatisfied

8. In the office, what type of work setting do you use most often? (Choose one).

A private office assigned solely to you.

A quiet room/private office (available for flexible use, possibly bookable)

A shared office (enclosed room/space)

Semi-enclosed work station/cubicle (such as area accommodating one or two workstations)

A flexible/non allocated workstation (such as a desk that has been assigned to one for any staff member to use)

A shared team table/collaborative table

A meeting room

An informal work-setting such as a break-out zone

A specialist practical or technical setting such is equipped for a particular work activity

9. The workplace allows you to collaborate with those in your immediate workgroup.

Strongly agree Agree Neutral Disagree Strongly disagree

10. The workplace makes it easy to focus on a task when needed.

Strongly agree Agree Neutral Disagree Strongly disagree

11. The workplace allows you to have privacy when you need it.

Strongly agree Agree Neutral Disagree Strongly disagree

12. The workplace allows you to collaborate with other workgroups in the building.

Strongly agree Agree Neutral Disagree Strongly disagree

13. The availability and diversity of meeting spaces supports your needs.

Strongly agree Agree Neutral Disagree Strongly disagree

14. You are satisfied with the interior of the workplace in general.

Strongly agree Agree Neutral Disagree Strongly disagree

15. The technology in meeting spaces allows you to be productive.

Strongly agree Agree Neutral Disagree Strongly disagree

16. The workplace enables you to be effective and productive in your role.

Strongly agree Agree Neutral Disagree Strongly disagree

17. What workplace factors would enable you to be more productive?

Opened question:

18. The workplace successfully showcases Microsoft’s products and technologies.

Strongly agree Agree Neutral Disagree Strongly disagree

19. You have access to natural light in the workplace.

Strongly agree Agree Neutral Disagree Strongly disagree

20. The sound levels in the workplace is:

Too quiet, lack of energy Meet my expectations Too loud or distracting

21. The temperature of the workplace is:

Too hot Just right Too cold

22. From the list below, rate your satisfaction

	Highly dissatisfied	Dissatisfied	Neutral	Satisfied	Highly dissatisfied
Meeting rooms					
Quiet Rooms for working alone or in pairs					
Informal work areas/break-out zones					

Accessibility of colleagues					
Variety of different types of workspace					
Desk					
Chair					
Ability to personalize my workstation					
Personal space between work setting					
People walking past your workstation					
Personal storage					
Colors of the workspace					
Plants and greenery					
Air quality					
Office lighting					

23. What impact do you think the design of your current workspace has on the following aspects of your organization?

	Very negative	Negative	Slightly negative	Neutral	Slightly positive	Positive	Very positive
Work culture							

Corporate image (for visitors, clients, potential recruits, etc.)							
Environmental sustainability							

Appendix 2: Questionnaire submitted to the employees after the transition, in Shared Desk

Date of submission: 22nd February, 2016

Date of completion: 29th February, 2016

1. What is your gender?

Male Female

2. How long do you work for Microsoft?

More than 10 years. 5 – 10 years 2 – 3 years Less than a
year

3. Employee type

Part time Full time

4. Age group

Under 25 25-44 45-64 65 and more

5. How many days in week are you approximately at Microsoft?

5 days. 4 – 5 days 2 – 3 days 1 day and less

6. How many hours per week do you approximately spend at Microsoft?

More than 40 hours 30 – 40 hours 10 – 30 hours Less than
10 hours

7. How are you satisfied with the new workspace in general?

Strongly satisfied Satisfied Neutral Not
satisfied
Strongly dissatisfied

8. In the office, what type of work setting do you use most often? (Choose one).

A private office assigned solely to you.

A quiet room/private office (available for flexible use, possibly bookable)

A shared office (enclosed room/space)

Semi-enclosed work station/cubicle (such as area accommodating one or two workstations)

A flexible/non allocated workstation (such as a desk that has been assigned to one for any staff member to use)

A shared team table/collaborative table

A meeting room

An informal work-setting such as a break-out zone

A specialist practical or technical setting such is equipped for a particular work activity

9. The workplace allows you to collaborate with those in your immediate workgroup.

Strongly agree Agree Neutral Disagree Strongly disagree

10. The workplace makes it easy to focus on a task when needed.

Strongly agree Agree Neutral Disagree Strongly disagree

11. The workplace allows you to have privacy when you need it.

Strongly agree Agree Neutral Disagree Strongly disagree

12. The workplace allows you to collaborate with other workgroups in the building.

Strongly agree Agree Neutral Disagree Strongly disagree

13. The availability and diversity of meeting spaces supports your needs.

Strongly agree Agree Neutral Disagree Strongly disagree

14. You are satisfied with the interior of the workplace in general.

Strongly agree Agree Neutral Disagree Strongly disagree

15. The technology in meeting spaces allows you to be productive.

Strongly agree Agree Neutral Disagree Strongly disagree

16. The workplace enables you to be effective and productive in your role.

Strongly agree Agree Neutral Disagree Strongly disagree

17. What workplace factors would enable you to be more productive?

Opened question:

18. The workplace successfully showcases Microsoft’s products and technologies.

Strongly agree Agree Neutral Disagree Strongly disagree

19. You have access to natural light in the workplace.

Strongly agree Agree Neutral Disagree Strongly disagree

20. The sound levels in the workplace is:

Too quiet, lack of energy Meet my expectations Too loud or distracting

21. The temperature of the workplace is:

Too hot Just right Too cold

22. Do you feel respected and appreciated at your current workspace?

Strongly agree Agree Neutral Disagree Strongly disagree

23. From the list below, rate your satisfaction with the current workspace:

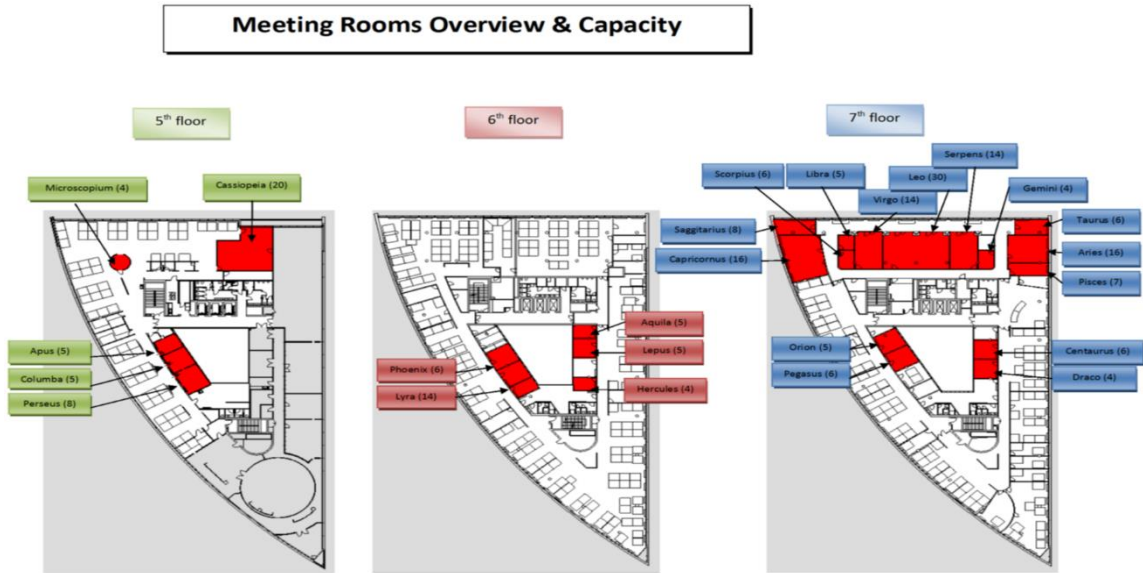
	Highly dissatisfied	Dissatisfied	Neutral	Satisfied	Highly satisfied
Meeting rooms					
Quiet Rooms for working alone or in pairs					
Informal work areas/break-out zones					
Accessibility of colleagues					

Variety of different types of workspace					
Desk					
Chair					
Ability to personalize my workstation					
Personal space between work setting					
People walking past your workstation					
Personal storage					
Colors of the workspace					
Plants and greenery					
Air quality					
Office lighting					

24. What impact do you think the design of your current workspace has on the following aspects of your organization?

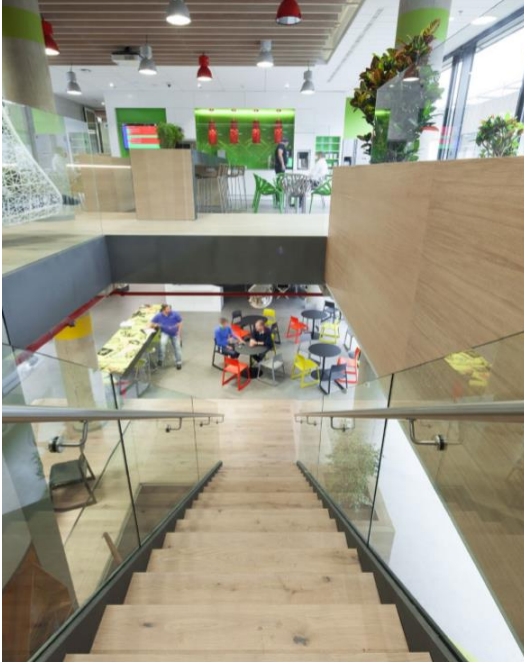
	Very negative	Negative	Slightly negative	Neutral	Slightly positive	Positive	Very positive
Work culture							
Corporate image (for visitors, clients, potential recruits, etc.)							
Environmental sustainability							

Appendix 3: Map of the Open Space



Source: Internal resources

Appendix 4: Hub designed in spirit of music located at the Shared Desk



Source: Microsoft, 2015

Appendix 5: One of the meeting located at the Shared Desk



Source: Microsoft, 2015

Appendix 6: Personal lockers for each employee placed in Shared Desk



Source: personally took picture