Service Design in Enabling Workplace Change as a Tool for Work Transformation

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The purpose of this thesis was to support a Finnish government agency in implementing workplace change after relocation to an activity-based office. The subject is connected to changes in modern knowledge work that are forcing organizations to undergo work transformation by breaking out of their traditional definition of work. The objective of this thesis was to study how service design approach to organizational change can enable organizations in using workplace change as a tool in work transformation process by questioning the ways they work, where work takes place, and what kind of work environment best supports their operations.

The theoretical framework of the thesis forms an understanding of successful implementation of modern knowledge work environments. Activity-based office is discussed as a concept for bringing New Ways of Working into workplace. The theoretical framework for service design approach to work transformation was created. In the framework, workplace change is considered an iterative learning process with focus on steering cultural change and supporting bottom-up implementation after relocation by organization members as co-designers. Service design principles, methods, tools and process are used to facilitate change as a series of conversations. Job crafting supports the change process by providing tools for proactively responding to the changing demands and resources present in the new situation.

The empirical part of the thesis followed the Double Diamond design process model. Service design methods and tools generating qualitative data were used to engage organization members in exploring opportunities of the new work environment, in evaluating whether an activity-based office concept fulfilled the needs and expectations of the case organization, and in co-creating improvements by following identified paths for development. The methods included document analysis, mapping tools, design probe, observation, personas, and ideating with altogether six workshops. The main empirical outcomes for the case organization were revealing added value that more collaborative and team-based ways of working can bring to its operations and creating concrete solutions that can be implemented to realize the potential benefits of the activity-based office concept by aligning work environment and work culture.

The thesis provides valuable information and avenues for further research by showing how service design approach to organizational change can provide long-term improvements in productivity and well-being at modern knowledge work. The framework presented in this thesis can benefit any public or private sector organization that is looking to use workplace change as a tool for work transformation. The main conclusion of the thesis is that service design can facilitate the process of work transformation by bringing together change in work environment with change in ways of working. Service design can be used as an inquiry to work culture, showing how old ways of working frame the current situation and demonstrating the value of change. Furthermore, service design can provide an organization with tools, skills and capabilities for continuous adaptation towards work transformation.

Keywords: service design, New Ways of Working, activity-based office, work transformation

Panu Ylivainio

Palvelumuotoilu mahdollistamassa työn murrosta työympäristömuutoksen avulla

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Opinnäytetyön tarkoituksena oli tukea suomalaista valtiosektorin asiantuntijaorganisaatiota työympäristömuutoksen toteuttamisessa monitilatoimistoon muuton jälkeen. Aihe sivuaa tietotyön muutokseen liittyvää työn murrosta, joka pakottaa organisaatioita purkamaan perinteiset käsityksensä työn luonteesta kyseenalaistamalla työnteon tavat, paikat, joissa työtä tehdään ja sen, millainen työympäristö parhaiten tukee niiden toimintoja. Opinnäytetyön tavoitteena oli tutkia palvelumuotoilun lähestymistapaa organisaatiomuutokseen työympäristömuutoksen ja työn murroksen mahdollistamisen näkökulmasta.

Opinnäytetyön tietopohja muodostaa ymmärryksen tuloksellisesta muutoksen toteuttamisesta moderneissa tietotyön ympäristöissä. Monitilatoimistoa käsitellään tapana jalkauttaa uusia työnteon tapoja organisaatioon. Sen pohjalta luotiin teoreettinen viitekehys palvelumuotoilun soveltamisesta työn murroksen mahdollistamisessa. Viitekehyksessä työympäristömuutos nähdään oppimisprosessina, jonka keskiössä on työkulttuurin muutoksen ja organisaation jäsenten itseohjautuvuuden tukeminen uudessa työympäristössä. Organisaatiomuutosta johdatetaan keskustelujen kautta palvelumuotoilun toimintaperiaatteita, metodeja, työkaluja ja prosessia hyödyntäen. Työn tuunauksen työkalut tukevat aktiivista lähestymistapaa muutokseen, haasteiden kohtaamiseen ja voimavarojen hyödyntämiseen.

Opinnäytetyön empiirinen osa noudatti Double Diamond -prosessimallia. Palvelumuotoilun laadullisia menetelmiä ja työkaluja käytettiin organisaation jäsenten osallistamiseen kokeilemaan työympäristön uusia mahdollisuuksia, arvioimaan vastaako monitilatoimisto organisaation tarpeita ja odotuksia sekä luomaan yhdessä uusia ratkaisuja tunnistettuja kehityspolkuja seuraten. Käytetyt metodit olivat dokumenttianalyysi, karttatyökalut, luotain, observaatio, persoonat ja ideointi sekä kaiken kaikkiaan kuusi työpajaa. Empiirisen osan päätulokset olivat sen lisäarvon näkyväksi tekeminen, jonka aiempaa enemmän yhteistyöhön ja tiimityöskentelyyn tukeutuvat työtavat voivat tuoda kohdeorganisaation toimintaan sekä konkreettisten ratkaisujen kehittäminen, joiden avulla kohdeorganisaatio voi hyödyntää monitilatoimiston mahdollisuuksia työympäristön ja työkulttuurin yhteensovittamalla.

Opinnäytetyö tuottaa uutta tietoa ja tutkimusmahdollisuuksia osoittamalla, miten palvelumuotoilu lähestymistapana organisaatiomuutokseen voi tuottaa pitkäaikaishyötyjä tietotyön tuottavuuteen ja työhyvinvointiin. Luotua viitekehystä voidaan hyödyntää niissä yksityisen ja julkisen sektorin organisaatioissa, joissa pyritään löytämään ratkaisuja työn murrokseen työympäristömuutoksen avulla. Opinnäytetyön johtopäätös on, että palvelumuotoilu voi edesauttaa työn murroksen kehityskulkua yhdistämällä työympäristön- ja työnteon tapojen muutoksen. Palvelumuotoilun avulla voidaan tutkia työkulttuuria, osoittaa miten vanhat työnteon tavat kehystävät nykytilannetta ja havainnollistaa muutoksen tuomat toiminnalliset hyödyt. Palvelumuotoilu voi sen lisäksi tarjota organisaatiolle työkaluja, taitoja ja kyvykkyyksiä työkulttuurin ja toiminnan jatkuvaan kehittämiseen kohti työn murrosta.

Avainsanat: palvelumuotoilu, uudet työnteon tavat, monitilatoimisto, työn murros

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1   Introduction

The Knowledge Age is fundamentally changing the way we work and the specific needs of knowledge workers that must be supported by organizations and work environments. Modern work culture is driven by the need to access information in order to create knowledge. (Lotze 2004, 11-13) Organizations are increasingly relying on knowledge and good ideas rather than physical labour to remain competitive in the global market. This has resulted in a global shift towards a knowledge driven economy and information society. (Blok et al. 2011, 3) Modern knowledge work has become less about routine work and is increasingly characterized by information seeking and utilization, creating and sharing of ideas and collaborative work (Aaltonen et al. 2012, 7) with knowledge based competition forcing organizations to seek more successful ways of working and managing knowledge (Stenfors et al. 2006, 930). At the same time, knowledge workers have become regarded as the most valued asset for organizations (Harrison et al. 2004, 145). Drucker (1999, 83) argues that rise of knowledge workers as the single largest group of workers in developed countries is making improving productivity of knowledge workers as the next central challenge for organizations. Modern knowledge workers can therefore be regarded as the group that is both most impacted by change in ways of working and responsible for making change happen (Pyöriä 2005, 116-117).

Many of the features of modern knowledge work have been captured by the concept of New Ways of Working. It refers to a variety of changes that are be made by organizations to increase flexibility in time and space by redesigning work in support of increasingly collaborative nature of modern knowledge work (ten Brummelhuis et al. 2012, 113-114). Inspired by this thinking, workplace change as a catalyst for creating organizational change has recently gained increased interest and attention (Ekstrad 2016, 283). A growing number of organizations have relocated into offices designed to support activity-based work culture and way of working in pursuit of bringing New Ways of Working to the workplace (Candidio 2018, 1).

Workplace change can hold potential for organizational change, but much of the success depends on implementation of the new office concept. According to Skogland (2017, 72), relocation can be particularly challenging for organization members when both physical environment and ways of working must be changed simultaneously. Ekstrand (2016, 291-292) argues that a common pitfall is in declaring workplace change project finished as soon as the physical relocation is complete with no plans to steer development towards desired work culture. However, without cultural change, only some of the benefits of the new environment can be leveraged (Nathan & Doyle 2002, 39). Realizing full potential of workplace change requires organization to move from "old ways of working" to New Ways of Working (Harrison et al. 2004, 138). Robertson (2000, 376) concludes that work transformation can result from a process where organization is helped in breaking out of its traditional definition of work by ques-

tioning its ways of working, where work takes place and what kind of environment best supports its operations.

Organizations are increasingly recognizing need for bottom-up redesign approaches initiated by employees themselves for implementing workplace change. It is believed that encouraging employees to proactively make changes in their work captures the growing importance of independent organization members taking initiative in the change process. (Grant & Parker 2009, 319) In this participative approach, the role of the organization consists of asking questions, understanding developments and embracing initiative and organization members are granted a high degree of freedom to create change in the new environment while maintaining a continuous dialogue (van Koestveld and Kamperman (2011, 310-311). Penn et al. (1999, 195) conclude that focus of implementation should be on developing work culture conductive to the aims of the organization rather than enforcing organization aims through formal mechanisms.

In this thesis, service design is studied as a bottom-up approach to organizational change capable of enabling workplace change as a tool for work transformation. Thesis work draws from recent developments whereby design is increasingly recognized as a powerful transformative approach for changing organizations on a fundamental level (Kurtmollaiev et al. 2018, 70) with service design being particularly effective for overcoming challenges for archiving multi-layered transformations, where both processes and underlying mindset must be changed (Calabretta et al. 2016, 91). Design inquiry can be used as an inquiry to work culture revealing fundamental assumptions, values and norms of the organization, showing how it frames the current situation and demonstrating value of change (Junginger & Sangiorgi 2009, 4344). Burns et al. (2006, 21) conclude that goal of transformative design is not only to create new solutions but to provide organization with tools, skills and capabilities for continuous change.

The purpose of this thesis is to support a knowledge-intensive organization in the Finnish government in bringing New Ways of Working into workplace by relocating to activity-based office. The developmental goal of the thesis is to use service design methods and tools to support implementation of workplace change after relocation in one of the units of the case organization. This thesis aims to provide valuable information for practitioners working with public and private organizations by showing how service design approach to organizational change can be used in context of workplace change. Aim is to simultaneously support changes in physical environment, ways of working and work culture resulting with transformation towards more collaborative work. Elements of this approach are not yet well defined and additional studies are needed in this field. Next chapter describes the case organization and background of the workplace change project and thesis work.

1.1 Background of the case organization and the case study

Finland has taken advantage of possibilities provided by emerging technologies earlier than most other industrialized countries and it can be characterized a knowledge-based economy in the making (Schienstock 2007, 104). This is also reflected in operations of Finnish government sector. According to Pollitt and Bouckaert (2011, 267), a strongly emerging theme in Finland since the early 21th century has been strive for better horizontal coordination and "whole-of-government approach" where solutions for shared problems are developed in collaboration between branches of government. However, according to Koivumäki and Pyöriä (2012, 116), while there has been decentralization of decision-making increasing flexibility in organizing work for individual agencies, economic power in Finnish state administration is increasingly centralized. They argue that has resulted from aspirations to improve cost efficiency and build more effective mechanisms of accountability in the public sector.

One of the concrete results of the "whole-of-government approach" has been development of Government Premises Strategy first drawn up in 2005 and updated in 2014 with a vision of going "from working premises to working environments by 2020" (Ministry of Finance 2015, 35). Rasila et al. (2014, 267-268) summarize main objectives of the strategy as gaining operational and financial benefits by introducing New Ways of Working into government workplaces by providing workplace solutions mass-customized for needs of modern knowledge work. Planning and designing of all governmental workplace change projects must follow objectives set in the strategy, but implementation of the concept in daily work remains under control of individual organizations. They conclude that a harmonizing strategy was needed, because organizations have been reluctant to make these changes voluntarily.

The case organization is a knowledge-intensive public sector organization in Finnish government. It is a decision-making organization and provides specialist and information services in support of political decision-making. Organization is divided into units with distinct and separate responsibilities. Headquarters of the case organization located in Helsinki reside around 500 organization members. While other regional offices also provide direct customer facing services, main office is focused on facilitating decision-making and specialist services.

In spring 2015 the case organization begun planning for a workplace change project to relocate its headquarters in accordance to Government Premises Strategy and in collaboration with Senate Properties, a government-owned enterprise that acts as the government's expert on work environment and work premises (Rasila et al. 2014, 267). A final decision to relocate was reached in summer 2017 once a suitable location was found followed by a redesign stage lead by outside experts. The thesis writer, who was an employee of the case organization, was looking for an opportunity to do his thesis work for Degree Programme in Service Innovation and Design at Laurea University of Applied Sciences in connection to the ongoing workplace change project. He made a proposition to management of the case organization of using

service design to support implementation of the workplace change project after relocation. It was argued by the author that thesis work would be complementary to planning and redesign stages completed before relocation. The proposition was accepted, and scale and scope of the development project was further defined to include one of the units of the case organization. It was agreed that author would plan and execute a service design project for the unit he worked for at that time, and members of the case unit would be allowed to use their working hours for taking part in design activities. Objective of the study and research questions are discussed in more detail next.

1.2   Objective and purpose of the thesis

Overall aim of the case organization is to bring New Ways of Working into workplace by relocating to activity-based office. The developmental goal of the thesis is to use service design methods and tools to support implementation of workplace change after relocation in one of the units of the case organization. This thesis aims to provide valuable information for practitioners working with public and private organizations by showing how service design approach to organizational change can be used in context of workplace change. Aim is to simultaneously support changes in physical environment, ways of working and work culture resulting with transformation towards more collaborative work. Elements of this approach are not yet well defined and additional studies are needed in this field. Thesis work is based on research questions defined by the thesis writer as part of the thesis work.

The main research question of the thesis is **how can service design enable using workplace change as a tool for work transformation**.

In the context of design research, the sub-questions are the following:

1. When does workplace change have transformative potential?

2. How to support bottom-up approach to implementation of workplace change?

3. How to build organizational capabilities towards work transformation?

Objectives of the development challenge for the case organization are the following:

1. To study service design methods and tools applicable for supporting implementation of workplace change after relocation

2. To engage organization members to explore opportunities of the new work environment, to evaluate validity of activity-based office and to co-create adjustments

The objective of the theoretical part of the study is to create an understanding of successful implementation of modern knowledge work environments. Theoretical part is divided into

two chapters. History of office design, New Ways of Working, spaces of knowledge work environment and activity-based office concept are discussed first to identify antecedents of workplace change project with transformative potential. Then, transformative service design and other organizational change theories and approaches are studied and synthesized to create a theoretical framework for realizing transformative potential of a workplace change project. Part of the framework focusing on implementing workplace change after relocation is tested in the empirical part of the thesis.

In the empirical part of the thesis the Double Diamond design process model (Design Council, 2007) is used. Thesis covers Discover, Define and Develop phases of the model. Service design methods and tools are used to engage members of the case organization to take part in development project after relocation. Design activities performed during each phase are connected to objectives of the development challenge. The final Deliver phase, where created solutions are implemented by the case organization, is not included in the thesis.

1.3   Structure of the thesis

Thesis is divided into six chapters covering five topics. Table 1 displays main contents of each chapter. The introduction chapter gives an overview of thesis' main points. Theoretical background is covered in the following two chapters. It provides a literature review and evaluation of previous research on the thesis topic and proposes a framework for solving the research question. The following chapter on research approach justifies the methodology used in the study to gather analyse data. Next chapter describes the process of the empirical study and outlines results in relation to objectives of the development project. The final chapter provides answers to research questions and further explores their meaning and implications.

Chapter 1: Introduction	Chapter 2: Theoretical background	Chapter 3: Theoretical background	Chapter 4: Research approach	Chapter 5: Empirical study and findings	Chapter 6: Summary and conclusions
1.1 Background of the study	2.1 History of office design	3.1 Service design	4.1 Case study as a research method	5.1 Confirming transformative potential and defining scope of development project	6.1 Answers to research questions
1.2 Objective of the study	2.2 New Ways of Working	3.2 Stages of planned organizational change	4.2 Service design methods and tools used in the study	5.2 Discovering needs and expectations	6.2 Discussion
1.3 The structure of the thesis	3.3 Spaces of modern knowledge work environment	3.3 Organizational change as a series of conversations	• Document analysis • System map, Expectation map, Empathy map	5.3 Discovering mobility patterns in activity-based office	6.3 Evaluation of the study
1.4 Key concepts	3.4 Activity-based office concept	3.4 Job crafting	• Design probe • Work-along observation • Personas	5.4 Evaluating validity of activity-based office concept	6.4 Further research
	3.5 Transformative potential of workplace change projects	3.5 Theoretical framework	• Spectrum map, Idea portfolio, Impact and effort matrix • Idea generation, Trigger questions • Facilitated workshops • Coding for themes	5.5 Developing solutions enabling continuous change	
				5.6 Results of the development project	

Table 1: Structure of the thesis

1.4   Key concepts

Some of the key concepts of the thesis are defined next. "Work transformation", "workplace change" and "transformative service design" are defined to clarify main elements of the thesis topic. "Organization members" and "work culture" are also identified as key concepts of the study due to their close relation to the thesis topic. Other related concepts such as New Ways of Working, activity-based office and various organizational change theories and approaches are discussed in the theoretical part of the study in the two following chapters.

Work transformation

"Transformation" refers to a profound and fundamental change in the way things are and a shift in how people experience the world. In context of work, transformation brings about specific needs that must be supported in the new age. (Lotze 2004, 47-49) According to Robertson (2000, 376), successful work transformation requires organization to break out of its traditional definition of work by questioning its ways of working, where work takes place and the environment in which work is performed. Harrison et al. (2004, 138) describes process of work transformation as supporting the organization moving from "old ways of working" to New Ways of Working. This entails simultaneous changes in physical work environments, technology, ways of working and cultural aspects of the organization (Skogland 2017, 62).

In this thesis, the ongoing transformation of work studied is connected to the shift from Industrial Revolution to Knowledge Age (Lotze 2004, 13). Needs and experiences related fundamental change is explored from the point of view of modern knowledge workers and the organizations they work for.

Workplace change

Workplace change refers to implementing measures, such as innovative office designs, with an objective of gaining different kinds of organizational performance improvements (Riratanaphong & van der Voordt 2015, 773) related to for example improved space utilization, functionality of the environment or well-being at work (Blok et al. 2011, 5). In recent times, workplace change by relocating to a new type of office concept has also gained increased attention for its potential to create organizational change (Ekstrad 2016, 283) because change in physical environment entails changes also in social and mental aspects of work (Airo et al. 2012, 289). This type of workplace change can be particularly challenging for organization members because both physical space and ways of working need to be changed simultaneously (Skogland 2017, 72).

In this thesis, bringing New Ways of Working into workplace by relocating to activity-based office concept is studied as means to use workplace change as a tool for work transformation. In other words, workplace change is used as means to accomplishing task of supporting organ-

ization moving from "old ways of working" to New Ways of Working for purpose of work transformation.

Transformative service design

Transformative design is an approach where goal of a design project is not only to create new solutions but to provide organization with tools, skills and capabilities for continuous change (Burns et al. 2006, 21). Design is used as an inquiry to reveal fundamental assumptions, values and norms that frame current situation of the organization and to demonstrate the value of change. Organization members are then supported to work towards an agreed vision for change to reach desired objectives. (Junginger & Sangiorgi 2009, 4344, 4346) Organizational transformation based on design principles results in creation of an organization with capabilities to continuously learn, adapt and improve (Deserti & Rizzo, 2014, 38-39).

In this thesis, service design methods, tools and process together with complementary organizational change theories and approaches are studied to form a transformative service design approach to organizational change enabling workplace change as a tool for work transformation.

Work culture

Work culture can be differentiated between societal and organizational levels. On a societal level, work culture refers to the overall rules that remain constant between workplaces and govern widely held attitudes about things such as collaboration versus individual responsibility or where and when work is performed. On organizational level, work culture refers to the environment in which work happens in a specific workplace and is shared by a working community. A functional work culture provides the ground for people to evolve by developing their capabilities and realizing ambitions and best possible outcomes. (Lotze 2004, 10-11, 13)

In this thesis, focus is on how societal level work culture related to modern knowledge work is translated to work culture on an organizational level. The study follows Rousseau's (1995, 48-51) definition of organizational culture as a system of five interconnected layers of social experiences going from subjective to objective. At the core are *fundamental assumptions* that are long-standing and taken-for-granted beliefs of work. Fundamental assumptions manifest in *values* that are a prioritized set of performance that reveal themselves in the trade-offs that organization members make between various ways of behaving in specific situations. Values determine which *norms* are followed dictating what kind of behaviour is considered appropriate or inappropriate ways of working and relating to other organization members. *Behavioural patterns* are observable and repeated practices. At the outer layer are physical *artefacts* that get their meaning from all other levels of culture. Creating trust and predictability that others will play by the same rules is key part of developing a stable work culture.

Organization members

Organization is a social entity that is goal-directed, designed as deliberately structured and coordinated activity system, linked to the external environment, and made up of people interacting with each another to perform essential functions that help attain goals (Daft 2010, 11). "Organization" can refer to the entire organization or just one part of it. For example, for viewpoint of organization members of a single unit, organization may refer simply to that one unit. (Kates & Galbraith 2007, 1). According to Dive (2002, 62), membership of a knowledge work organization typically involves belonging to a network which enables members to collaborate with colleagues and requires a wide knowledge of relevant resources or key individuals. Developing ability to efficiently contribute to the tasks of knowledge work organization often takes many years to establish.

In this thesis, focus is in one unit of a knowledge work organization comprised of multiple units. In the study report "organization members" refers to both managers and employees who together form organizational network of the case unit. This underlines the importance of all organization members in contributing to a stable work culture regardless of their tasks.

2   Modern knowledge work environments

In order to understand the context of the study and development project, a literature review on knowledge work environments was conducted. A short recap on history of office design is given. This helps to illuminate drivers of workplace change at different times and to understand where office design stands today. Building on this foundation, New Ways of Working is discussed as an approach that strives to bring together various aspects of knowledge work in a way that enables organizations to support productivity and well-being at work. Activity-based office concept is introduced as a dominant approach for implementing New Ways of Working in office design both in private and public sector organizations. Finally, features of modern knowledge work are summarized to determine antecedents for workplace change with transformational potential.

2.1   Three waves of change in office design

During the 20th century, the idea of workplace has become almost synonymous with the office building (Harrison et al. 2004, 20). Growing importance of office as the primary work environment was linked to the rise of knowledge work in the Western world (Van Meel 2000, 9). During this time, office as a design concept highly contextual to a specific time and place has been under constant experimentation and change (Parker 2016, 178; van Meel 2000, 164).

Understanding historical development of office design is important for evaluating its current form and considering what options are available in the future (Laing 2006, 29). Changes in the office design during past hundred years can be divided into three main phases (Duffy 2007, 123-125). Myerson (2013, 218) calls these changes as "three great waves of change". Changes

over time are impacted by factors such as changing urban settings, market conditions, labour relations, work cultures and regulations resulting with both national and international differences (Van Meel 2000, 50-51). Harrison et al. (2004, 22) views office concepts as representations of different "office philosophies" that strive to provide solutions for changing organizational objectives while taking advantage of the latest technological advances.

The Taylorist office

The first wave of office design took place in the early 20th century with emergence of the Taylorist office, following the rise of manufacturing and shortage of workers in America (Duffy 2007, 123) and simultaneous rapid growth in in the number of office workers in Europe (van Meel 2000, 11). The office building was originally designed as a specialized building form to meet demands of increasing bureaucracy and large corporations that were being formed at that time (Harrison et al. 2004, 20). According to van Meel (2000, 25), work that can be classified as office work was performed earlier in smaller scale, but it was only at this time that office building as a concept was created to match fundamentally different efficiency needs.

Changing nature of office work was highly impactful in the design of early office buildings. Office work became a form of mass production performed in so-called "white-collar factories", following earlier development of manual work being transformed from small workshops into larger factories. (van Meel 2000, 11-12) Parker (2016, 179-180) argues that design of both manual work and office work was subject to "scientific approach" management approach developed by Fredrick Taylor, aiming to maximize efficiency and resulting with decreased autonomy and simplified work designs. Laing (2006, 34) concludes that both organization of work and office design shared many similarities with the design of factories.

Taylorist office was characterized by highly streamlined and standardized open plan designs with strictly uniform grids of desks facing in the same direction to ensure frictionless workflow and easy supervision of office workers. (Duffy 2007, 123) Only managers were provided with cellular offices, often with visibility to the office floor (Van Meel 2000, 27). The single objective was to develop an optimally efficient office environment (Myerson 2013, 216).

Harrison (2004, 20) considers office philosophy of Taylorist office to be based on a mechanistic view of office workers as units of production with little concern for their well-being at work. Offices were designed strictly from the point of view of the managers. Over time, limitations of Taylorist approach to office design became evident with growing criticism for its lack of consideration of more human factors, and with nature of office work becoming more knowledge intensive requiring more interaction among employees (Myerson 2013, 216-217).

The social democratic office

Second wave of office design took place after of the Second World War with emergence of the social democratic office in Northern Europe (Myerson 2013, 218). Van Meel (2000, 38) regards it as a clear break in office philosophy with a shift in power from employers and managers to employees that aiming to establishing more democratic working arrangements. For example, some countries adapted regulations dictating minimum space per employee, ensured access to daylight and an outside view, and giving employees' representatives the right to sit on the supervisory board as concrete examples of these changes.

Office buildings were increasingly considered as investments with many organizations going from renting standardized office floors to owning their own office buildings. Considerable resources were allocated for creating highly customized office designs tailored for supporting specific objectives and needs of that organization and its employees. (Laign 2006, 44) In many organizations employees now had their own private office room regardless of their position in the organization (Duffy 2007, 124) Office rooms also featured a high level of other amenities such as ergonomic office furniture, air conditioning coupled with personal computers and land-line telephone connections (Laing 2006 42-44; Myerson 2013, 220). Office floors comprised of long corridors lined with rows of rooms and designated areas for holding meeting and shared areas for taking breaks with colleagues. These features of social democratic office design are what today is commonly referred to as a traditional office. (Van Meel 2000, 38)

Many office workers grew accustomed to benefits of high level of personalization and control over auditory and visual features that private office rooms provided. However, increasing number of organizations have begun to view these perks as limitations resulting with expensive, inefficient and inflexible office designs unable to respond to changing needs of increasingly collaborative modern knowledge work in the global marketplace. (Myerson 2013, 220)

The networked office

Third wave office design has been ongoing since the beginning of 21th century with emergence of the networked office as a result of many technological advances freeing knowledge work from constraints of time and space (Duffy 2007, 124-125). Harris (2015, 424) considers the networked office as fundamentally changing the role of office in modern knowledge work. Laptop computers and online connections have reduced the significance main office to only one of the many places where work takes place. At the same time, role of office as a place for employees to interact and collaborate is becoming even more pronounced.

Distributed work arrangements and changes in office use have resulted with development of new office concepts. Myerson (2013, 220) describes networked office designs as highly flexible and more open plan offices aiming to support collaboration and making offices more easi-

ly redesigned in anticipation of rapidly changing occupancy needs of modern knowledge work organizations. Many organizations have also introduced ways to share workstations between employees since more work is done remotely lessening the need for assigned desks or rooms.

Philosophy of the networked office can be considered as a compromise between the two previous waves of change in office design. Duffy (2007, 130) argues that Taylorist office was too much biased towards top-down control while the social democratic office was biased towards individual comfort and isolation. He considers both office designs too limited for the needs of modern knowledge workers. Vos and van der Voordt (2001, 62) view more flexible office designs as a golden mean between Taylorian office and the social democratic office that should aim for supporting both individual work and collaboration. Myerson (2013, 220) concludes that networked offices strive to add both effectiveness and efficiency through smart space utilisation while also retaining employees' well-being at work through increased flexibility.

Van Meel (2000, 163) describes history of office design as cyclical in nature following a pattern where ideas emerge, becoming popular and eventually get replaced by other ideas. In each case, proponents of new concepts strive to set themselves apart from the past by highlighting the novelty of their ideas and glorifying benefits of their solutions.

Duffy (2007, 126) concludes that a shocking fact remains that during the hundred years of inquiry into the relationship between office design and organizational performance few results of enduring practical value has been archived. He considers lack of clarity as a result of the rapid rate at which organizations and technology are changing compared to relatively slow pace at which office buildings are planned, constructed or redesigned.

2.2 New Ways of Working

Social, technological and economic drivers related to current transformation of knowledge work have pushed many organizations to redesign their approach to work in the era of the networked office. Harrison et al. (2004, 21) consider this as an inevitable response to similar transformation in other aspects of the society that has resulted with development towards more flexibility in how work is organized. According to Harris (2015, 427), expectations and values of employees are changing, resulting with organizations promoting well-being and maintaining a work-life balance to attract and retain highly skilful knowledge workers.

Van Meel (2010, 365) concludes that what makes it possible for organizations to close the gap between vision and reality of modern knowledge work is technological advancement together with a shift in organizational mindset granting employees with increased autonomy and responsibility to manage their own work. According to Kingma (2018, 2-3), movement toward increased flexibility has been ongoing since the technological revolution of the 1990s and is

commonly captured by the concept of New Ways of Working that has been gradually gaining worldwide interest. Blok et al. (2011, 5) defines New Ways of Working as:

"an outlook of ways of working that corresponds as closely as possible to the needs of the knowledge worker, leading to the creation of a productive, sustainable, inspiring working environment that promotes the performance of both the team and the individual by means of technological and social innovation."

Ten Brummelhuis et al. (2012, 113-114) conclude that at the core of this thinking is to offer more flexibility in time, space and communication by designing work in a way that provides more control to employees over timing and place of their work while being supported by digital communication channels. Seen as a management system, it is based on redesigning organisations approach and design of work in a way that enables employees to organize their work more flexibly (Brunmelhuis et al. 2012, 113).

Blok et al. (2011, 6-7) in their meta-analysis of 44 scientific articles related to New Ways of Working released in 21th century compiled a list of most commonly referred to measures of implementing New Ways of Working including:

- Working from home
- Activity-related working
- Satellite offices
- Mobile working
- Flexible working hours
- Using internet access
- Use of social network services
- Use of video conferencing
- Use of collaborative tools
- Management based on trust

Kingma (2018, 3) argues that implementing New Ways of Working are often advocated as contributing to an array of benefits for the organization related to for example networking, collaboration, communication, creativity, empowerment, and sometimes presented as a cure-all for contemporary organizational problems. According to Van der Voordt (2004,134), measures connected to New Ways of Working can have benefits for both input and output of organization by improving more efficient use of space and leading to better performance of employees. In Palvalin et al. (2015, 482) view, the important notion behind the approach is not just what is new or innovative, but to work smarter by renewing work practices in smart ways in order to improve productivity without having more stress and frustration.

Palvalin et al. (2015, 485) constructed a framework for analysing how implementing practices of New Ways of Working are expected to lead to improved knowledge work performance. Figure 1 presents the four key components of their framework. Performance drivers include changes in contextual factors of the work environment and in utilizing modern work practices in knowledge workers personal ways of working. Results and outcomes require finding a balance in sometimes competing objectives of productivity and work well-being.

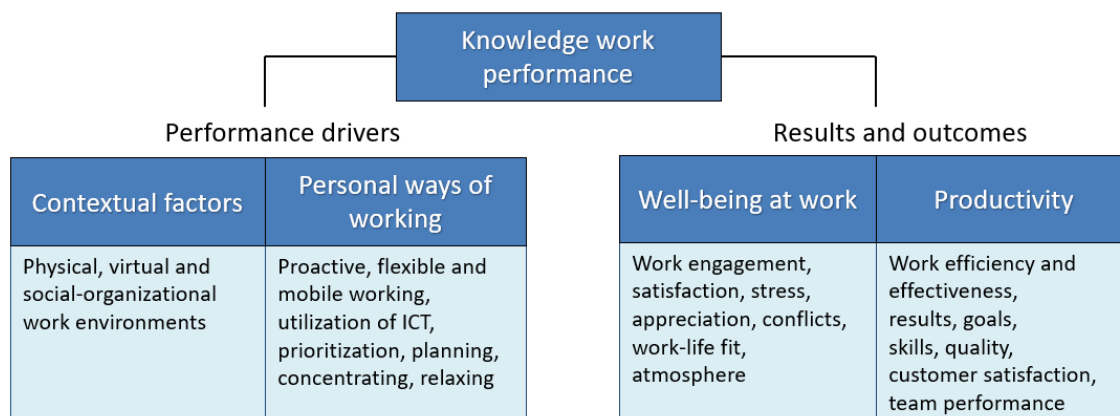| Knowledge work performance			
Performance drivers		**Results and outcomes**	
Contextual factors	Personal ways of working	Well-being at work	Productivity
Physical, virtual and social-organizational work environments	Proactive, flexible and mobile working, utilization of ICT, prioritization, planning, concentrating, relaxing	Work engagement, satisfaction, stress, appreciation, conflicts, work-life fit, atmosphere	Work efficiency and effectiveness, results, goals, skills, quality, customer satisfaction, team performance

Figure 1: The key components of knowledge work performance (Palvalin et al. 2015, 485)

Brunia et al. (2006, 31) underlines that New Ways of Working not only refers to changes in space and technology but has a higher strategic goal of creating an organizational culture and uniform identity where work can be described as a state of mind rather than something that is connected to any one place. Ekstrand (2016, 284) concludes that because such transformation requires fundamental changes in operations and thinking of the organization, workplace change projects are often used as a catalyst for organizational change. Implementing New Ways of Working can therefore be an integral part of creating a knowledge culture.

2.3 Spaces of knowledge work environment

New Ways of Working expand thinking on what constitutes a work environment. Fruchter et al. (2010, 184) argues that designing a functional knowledge work environment requires understanding of the relationship between physical space, virtual space and social space. Because these aspects are interconnected, any changes in one will impact the other two.

Interaction between different spaces and how they are organizationally brought together can be considered as the building blocks of contemporary work cultures (Kingma 2018, 2). Skogland (2017, 62) argues that implementation of New Ways of Working should aim at creating an integrated workplace concept as a system, where physical environments, technology, work processes and cultural aspects together support strategic objectives of the organization.

Aaltonen et al. (2012, 8-9) conclude that the term New Ways of Working is widely used but has context specific meanings. Figure 2 portrays their visualization of the concept, where three spaces are further divided into total of six main groups of key terms, and to numerous key factors between them. Put together, New Ways of Working forms a complex system of requirements that are based on business success factors and key performance indicators. Spaces are discussed in more detail next.
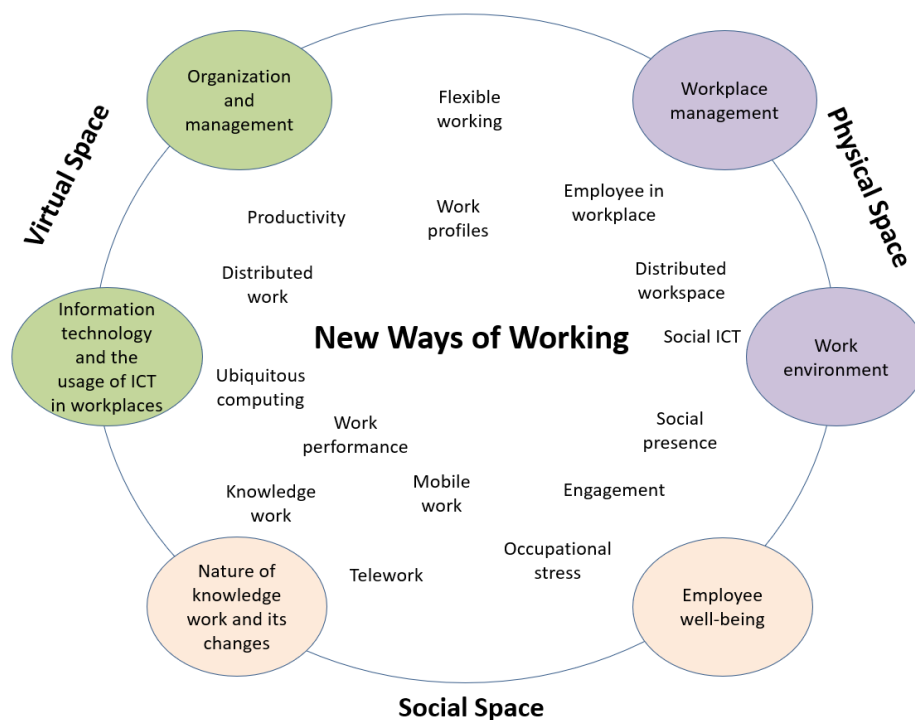

Figure 2: The complex environment of New Ways of Working (Aaltonen et al., 2002, 9)

Physical space

Physical space consists of any tangible environments that are used by organization members to conduct work (Nenonen et al. 2009, 7) This includes features of the physical location and other physical elements in that location such as a desk and a chair that impact work performance (Harrison et al. 2004, 89).

Vartiainen and Hyrkkänen (2010, 130) classify different spaces that can be used for modern knowledge work according to what types of work they are most suitable for:

- Home is a place suitable for concentration, preparation and rest
- Main office is suitable for social support and getting advice by meeting colleagues
- Moving places such as means of transportation give time for reading
- Secondary workplaces such as customer's premises enable working with customers
- Third places such as cafés are suitable for short-term informal discussions with peers

Nenonen et al. (2009, 7) further separate different physical spaces as private, semi-private and public spaces that both enable and limit work than can be performed. For example, some tasks can only be performed within a secure location of the main office due to security and privacy concerns (Haapamäki et al. 2010, 25). Different physical spaces also provide for different temporal needs, as some activities last for a minute, while others can take an hour, whole day or even longer to complete (Penn et al. 1999, 217).

Features of physical space have become harder for employers to control, because many locations are now someone else's responsibility (Haapamäki et al. 2010, 25). Robertson (2000, 280) argues that employers should take on some of these new responsibilities beyond traditional office buildings. Employers should for example support organization members' access to healthy and safe working environment in their home offices.

Virtual space
Virtual space consists of electronic work environment including various technological devices and tools that are used by organization members to perform work individually and collaboratively (Vartiainen & Hyrkkänen 2010, 121). Virtual space is used through various interfaces and it is supported by the idea of paperless office, where files are digitalized and stored electronically, making it possible to access and modify them from anywhere (Kingma 2018, 18).

Technological devices and access to digitalized files together supports flexible working in different places and in different workspaces inside the main office. Harrison et al. (2004, 87) consider physical and virtual spaces as the two layers of work environment because much of modern knowledge work is performed virtually on a computer that is always located at some physical space. Worthington (2006, 3) view mobile technology and internet access as the platform that enables using different physical spaces. Personal laptop computers that support access to virtual space can for many employees be the only thing they carry from one space to another (Nathan & Doyle 2002, 27-28).

Mahler (2012, 409) regards different communication channels and tools enabled by virtual space as essential for supporting interaction and collaboration over time and space. Some of these tools have become considered as basic utilities such as mobile phones, email, instant messaging and group calendars. Others include highly complex tools such as teleconferencing and virtual reality spaces. (Harrison et al. 2004, 90; Vartiainen & Hyrkkänen 2010, 121).

Software tools are an increasingly important aspect of virtual space increasing performance of modern knowledge workers by saving time and improving quality of work. For example, automation of routine tasks can result in fewer human errors and enable employees to concentrate on those tasks that can only be performed by humans. (Palvalin et al. 2013, 547)

Nenonen et al. (2009, 21) regards virtual space as an integral part of work culture in modern knowledge work organizations serving as an additional channel to social community for organization members located in different physical spaces. Haapamäki et al. (2010, 24) argues that it is therefore important to ensure successful utilization of virtual space by providing reliable and user-friendly tools, constant training and creating shared ways of using virtual space for communication and collaboration.

Social space

Social space consists of the social context and the social network where working takes place including for example colleagues, managers and customers (Vartianen & Hyrkkänen 2010, 121) According to Nenonen et al. (2009, 11), social space is nested in physical and virtual spaces and takes form through interactions. It develops over time and becomes visible in work practices, processes and language and culture within the organization (Nenonen et al. 2009, 22). Van Koetveld and Kamperman (2011, 312) conclude that while physical space and virtual space can be planning and designed by outside experts, behaviours that are at the core of New Ways of Working can only be created in interactions among organization members.

Van Koesveld and Kamperman (2011, 305) argue that social space built on mutual trust and responsibility between organization and its members is a prerequisite for implementing New Ways of Working. This is because individual organization members are increasingly expected to be self-motivated and to take initiative while manages are expected to give them autonomy in deciding where and how to perform their job tasks (Blok et al. 2011, 7).

Trust and responsibility are also needed in increasingly project and team-based work that requires establishing clear roles and processes that make it possible to collaborate over time and space (Nenonen 2009, 4-5). Organization members must be able to combine individual autonomy and needs of others, because successful collaboration frequently requires going beyond official descriptions and builds around unofficial practices and unwritten rules over time (Haapamäki et al. 2010, 17)

Inalhan (2009, 20) argues that while importance of main office as a place for conducting work has decreased, its role as a primary platform for social space has increased. Main office is increasingly a place for expressing work culture and reinforcing values and norms that guide organizational behaviour (Harrison et al. 2004, 68). In particular, main office is important for enabling face-to-face communication, which can spread ideas and build commitment about "how we do things around here" (Rashid et al. 2006, 826) and create a sense of belonging by strengthening social ties among organization members (Nenonen et al. 2009, 4).

Mental space

Mental space can be considered as the fourth space consisting of thoughts, beliefs, ideas and emotions that can be shared with others and through which organization members interpret the other three spaces (Vartiainen 2009, 1095). Considering organization members attitude and motivation can be particularly important during workplace change, because organization members' interpretation of their work environment, rather than the environment itself, is what ultimately impacts the way they work (Harrison et al. 2004, 49).

Nenonen et al. (2009, 22) describe implementing New Ways of Working as a learning process of identifying, designing and using new environments in novel ways. This process can be supported by creating a shared mental space of motivation and willingness to change. It is also important for organization members to build necessary competences for flexible way of working and for example learning to manage without direct supervision. (Vartiainen 2009, 1098)

To summarize, New Ways of Working and approaching knowledge work environment as conspiring from interconnected spaces strives to capture increased complexity of modern knowledge work. This understanding can be used to develop an organization that is better able to meet the changing needs of knowledge workers and ultimately improve competitiveness of the organization. While some of the changes can be implemented in any organization, increasing number of organizations are looking to take advantage of full spectrum of possibilities and a fundamental in operations by redesigning its main office. Implementation of New Ways of Working through workplace change is discussed next.

2.4   Activity-based office concept

Activity-based office concept has grown in popularity for bringing New Ways of Working into workplace. As a result of efforts of core enthusiasts of architects, business consultants and ICT developers, there are now dedicated consultancy agencies and office furniture manufacturers specializing in helping organizations to design and implement modern knowledge work environments. It can even be argued that emergence of activity-based office concept has turned New Ways of Working into a business movement. (Kingma 2018, 2-3)

In designing activity-based offices, different types of workspaces are combined based on the type of work done in the organization and objectives set for workplace change. Key principles and aspects dictating design of activity-based office are discussed next.

Mobility patterns

One of the core assumptions of activity-based office designs is that the main office is only one of the many locations where work takes places. Because of highly mobile nature of modern knowledge work in has been estimated that average workstation is in active use for less than

half of working hours. (Nathan & Doyle 2002, 1) According to Bodin Danielsson and Bodin (2008, 643), it is possible to design offices with workstations available for as few as 70% of the total number of employees, because it is estimated that no more than that are ever present in the main office at the same time. Harris (2015, 431) concludes that possibility of increasing efficiency with higher utilization of workstations and reducing real-estate costs is often cited as one of the major benefits for implementing activity-based office concept.

Estimation of mobility level of organization members by finding out how much time they spend away from the main office should therefore determine how many workstations are needed in total (Aaltonen et al. 2012, 13-14). Schaffers et al. (2006, 26) adds that analysis of on-site mobility should be used to determine proportions of different types of workspaces needed. Aaltonen et al. (2014, 14) conclude that determining exact mobility patterns can be challenging, because needs of modern knowledge workers can change from one day to the next as they work between different modes.

Vos and van der Voordt (2001, 52) view type of work performed by the organization as an essential consideration impacting on-site mobility. They argue that activity-based office concept can be well-suited for those organizations where members spend a lot of time collaborating with clients, doing creative work, and working together in multidisciplinary teams. However, if work is still predominantly done individually on a computer, a traditional office with assigned workstations or rooms can be a more suitable option. Harris (2015, 428-429) concludes that there is also be significant variation in flexibility both between and within sectors that impact suitability of activity-based office concept for that organization.

Parker (2016, 185) claims that despite rhetoric of facilitating of desirable employee experience and accommodating to the needs of the knowledge workers, dominant agenda in activity-based work remains as cost reduction in real estate costs and operating cost management. According to Harrison et al. (2004, 52-53) this approach can easily backfire, because savings gained in occupancy can be easily overweight by additional employment costs if key employees lose motivation or leave the organization. They conclude that instead of focusing on efficiency alone focus should be on helping employees to work as effectively as possible.

Workspaces
Another of the core assumptions of activity-based office design is that a single all-purpose workstation is no longer enough to support the full range of activities of knowledge workers (Harrison et al. 2004, 30). Different workspaces should be offered instead to cover the full range of work performed in the organization. This typically included workspaces for individual concentrated work, collaborative work and long-term project work. (Kim 2016, 213)

Robertson (2000, 380) uses a metaphor of home to describe activity-based office, where different rooms are designated for different purposes like in our homes. However, rather than

having different rooms, activity-based offices are typically created by zoning office floor into smaller areas with clearly defined purposes (Harrison 2004, 31). According to Gorgievski et al. (2010, 207) overall office layouts are kept as open as possible to improve communication, reduce floor space and improve flexibility.

Nathan and Doyle (2002, 30) argue that simply providing many different workspaces is not enough to reach benefits of more flexible working. They consider it equally important how workspaces are provided and managed. Instead of having an assigned desk, organization members are encouraged to choose any available workstation within the office (Hirst 2011, 769). This creates an expectation that organization members base their choice primarily on their current work task (Harrison et al. 2004, 30) and utilize opportunities of various workspaces by changing their workstation during the workday (Gorgievski et al. 2010, 217).

Bakke (2017, 31) identify office rules as a common way to formalize employees' behaviour in activity-based office by determining what types of tasks and interaction are permitted at different workspaces. Knight and Haslam (2010, 167) consider setting a clean-desk policy essential for ensuring that workstations are kept in rotation by setting an expectation for employees to always take their belongings with them when changing workstations and at the end of the day. Personal lockers can be provided for storing personal items overnight.

Parker (2016, 193) claims that thinking behind workspaces of activity-based office share many principles with the Taylorist office and scientific management. He argues that focus is on reducing floor space and increasing staff density with orientation towards determining the most functional workflows and utilizing strategies of top-down control to socially engineer attitudes, behaviours, work practices and outputs of employees.

Workplace change as a tool for work transformation
Work transformation can result from a process where organization is helped in breaking out of its traditional definition of work by questioning its ways of working, where work takes place and what kind of environment best supports its operations (Robertson 2000, 376). New Ways of Working and activity-based office concept have been discussed in this chapter as an increasingly popular answer to these questions by offering a solution for changing needs of knowledge work organizations and as a catalyst for creating organizational change.

Vos and van der Voordt (2001, 52) underline importance of planning, because basing design decisions on wrong assumptions can cause innovative workplace change projects to fail. Blok et al. (2011, 4) argue that for many organizations changes made related to implementing New Ways of Working have a certain benefit in mind, but without having a clear understanding of the overall effect. Basing workplace change project on overly rationalistic and deterministic thinking can lead to implementing change project as a one-size-fits-all solution to organiza-

tional issues, where desired change is expected to naturally result from changes only to the physical work environment (Ekstrand 2015, 291-292). Overly rigid approach limits possibilities for individualized solutions (Hornung et al. 2010, 191-192) and fails to note that amount and importance of individual and collaborative work, work styles and cultures vary between organizations (Harrison et al. 2004, 31).

Harrison et al. (2004, 59) conclude that many organizations expect design changes to bring about changes in the organizational culture and the way people work, but all design can do is to support changes which the organization culture is ready for. Bad timing, when people are not ready for activity-based office concept and lacking implementation process can harm the relocation project (Vos & van der Voordt 2001, 52). Nathan and Doyle (2002, 39) conclude that, implementing new office concept without careful consideration of specific needs of the organization, and without supporting the necessary cultural change, can lead into a situation where "a smart space meets a dumb culture" with only a few benefits being leveraged.

To summarize, implementing New Ways of Working by relocation to activity-based office concept should be approached as a holistic change process where physical work environment is only one part of the whole. It is only changes in cultural aspects that can ultimately enable workplace change as a tool for work transformation.

2.5   Antecedents of workplace change with transformative potential

Defining features of New Ways of Working and activity-based office concept have been discussed in previous chapters as a potential solution for helping organizations in meeting changing demands of modern knowledge work. Building on this thinking, balanced objectives, enabling continuous change and participative implementation approach are discussed next as antecedents of workplace change with transformative potential. It is argued that properly aligning these factors in a workplace change project increases possibility of successfully realizing desired performance improvements and cultural change towards work transformation.

Balanced objectives for workplace change
Workplace change project begin by setting objectives that determine what kind of an impact organization is looking for with the change effort. Van Koetsveld and Kamperman (2011, 312) consider setting initial objectives early on as essential for determining the right level of expectations for upcoming change and choosing the right implementation approach. According to van Aken (2007, 72), objectives are typically set by organization's management, because they have access to knowledge necessary for evaluating organizational needs for change and the decision-making power to initiate the change process.

Bakke (2017, 5) argues that there are always restrictions present in design and change processes. Therefore, it is necessary to set clear prioritization and accept trade-offs between different objectives based on realistic assessment of available resources.

Vos and van der Voordt (2001, 51) distinguishes between three levels of objectives. Macro objectives are concerned with improving functioning of the society at large. These objectives are mostly formulated by public sector organizations such as government agencies, but private organizations are also increasingly made accountable for societal and environmental impacts of their operations. Meso objectives refer to interests of the organization such as more efficient operations and increased productivity. Micro objectives focus on interests of individual employees such as their well-being at work and professional capabilities. Furthermore, combining objectives from one or more levels should complement each other for reaching desired benefits for organizational change.

Van Koetsveld and Kamperman (2011, 308-311) distinguished workplace change projects according to ambition level determined by objectives set for change. At the lowest ambition level, objectives of workplace change are primarily concerned only with benefits of the organization focusing on short-term benefits such as cost reductions archived by optimizing the work environment. At an intermediate ambition level, objectives benefiting organization and individual employees are combined by simultaneously relocating to new environment and improving existing ways of working. At the highest ambition level, objectives benefiting societal, organizational and individual employees are combined creating potential for lasting cultural change within the organization. They conclude that more ambitious projects can yield more benefits, but it is also more time consuming and difficult to manage successfully.

It can be concluded that for workplace change project to have transformative potential it should have a balanced set of objectives that makes for a highly ambitious project. Harrison et al. (2004, 157) argues that it is necessary for organization members to understand how workplace change benefits them. If they do not agree with objectives set for workplace change, organization members may find ways to undermine the implementation process or continue to work in the same way they always have. Bakker et al. (2011, 85) conclude that providing a win-win situation for organization and its members around genuinely shared interests and purpose is important for enabling a sustainable change process.

Enabling continuous change
Time and resources must be allocated according to the scope of the desired workplace change. According to Van Aken (2007, 74), traditional top-down organization change processes are typically constrained by fixed timeframes and resources allocated strictly for the duration of the project. Following this approach can lead to overly focusing on the planning and constructing of the physical space prior to relocation. Ekstrand (2016, 291-292) views this as a

common pitfall, where the workplace change project is declared finished as soon as the physical relocation is complete with no plans to follow though and steer development towards a desired work culture. Harrison et al. (2004, 154) conclude that while design of a new workspace can act as an initiator for change, accomplishing real and profound change in an organization is very time consuming, making it difficult to manage within a project.

Tagliaro and Ciaramella (2016, 194) outline workplace change as a continuous change process where organization members gradually get accustomed to the new environment and its opportunities. Skogland (2017, 72) argues that qualities of the workspaces only come visible during occupancy and opportunities must be provided for adjustments bringing new environment into aligned with organization members' needs and values. According to Allen et al. (2004, 71), adjustments should be considered based on evaluation of how far the organization has moved culturally towards desired behaviour and objectives. Ekstrand (2016, 292-293) concludes that an ongoing and iterative change management process before and after relocation can lead into a situation where space and work culture can co-evolve into alignment.

It can be concluded that for workplace change project to have transformative potential it must enable continuous change process towards desired objectives. Abrahamson (2000, 75-76) describes continuous change as an approach where both short-term and long-term developmental objectives are supported by pacing major change initiative with periods of smaller organic change. According to van Aken (2007, 74) doing so extends timeframe of organizational change beyond project-based approach and takes advantage of organizational change processes during normally functioning times driven by learning and self-organization.

Participative implementation approach
Implementation approach must support objectives and scope of the desired workplace change. Van der Ven (2011, 2) defines traditional organizational change as a top-down process implemented by change agents and managers, who try to bring organization members to new behaviour according to the interests of the organization. Le Blanc et al. (2017, 48-50) argue that new technologies and flexible working methods have made traditional top-down implementation approaches to workplace change partially ineffective. Accordingly, organizations are now recognizing need to complement top-down approaches with bottom-up redesign strategies initiated by organization members themselves. Grant and Parker (2009, 319) conclude that using a bottom-up approach for implementing workplace change can better capture the growing importance of organization members taking initiative in the change process by encouraging them to proactively make changes in how work is performed.

Van Koestveld and Kamperman (2011, 310-311) recommend combining expert-led top-down approach with a bottom-up approach by organization members themselves for a highly participative, small-scale and less focused approach. In this approach, the role of the organization

consists of asking questions, understanding developments and embracing initiative. Managers are replaced by facilitators, and organization members are trained in self-management with a high degree of freedom to create change in the new environment while maintaining a continuous dialogue. This trial and error approach require organization to accept an initial lack of clarity towards the results that will be archived with the change initiate. However, they conclude that focus should remain at a coordinated effort of an organization-wide implementation of New Ways of Working rather than everyone being free to do their own thing.

Hornung et al. (2010, 191-192) argue that combining implementation approaches can overcome restrictions of purely top-down approach placing overly strict constrains for individual organization members and restrictions of purely bottom-up approaches lacking consideration of impacts of individual organization members behaviour for the whole organization.

It can be concluded that for workplace change project to have transformative potential a participative implementation approach supporting an ongoing process of culture creation towards desired objectives should be used. Auernhammer and Leifner (2019, 1208) describe this approach as initiating a collective process where patterns of activities, behaviour and interacting viewpoints are cultivated into a shared way of working. Penn et al. (1999, 195) conclude that focus should be on developing work culture conductive to the aims of the organization rather than enforcing organization aims through formal mechanisms.

To summarize, human factors are a key consideration in every aspect of preparing for transformational change in a modern knowledge work organization. Transformative potential is based on view of change as an ongoing learning process benefiting both organization and its members. In the next chapter, service design as a transformative approach to organizational change is discussed to create a framework suitable for realizing potential of a transformative workplace change project.

3   Service design approach to work transformation

A literature review on organizational change was conducted in order to understand how increased complexity of modern knowledge work environments can be accounted for when implementing transformative workplace change. Service design is first discussed as a platform offering shared principles, methods and tools, and process for engaging organization members into an inquiry to work culture. Three complementary organizational change theories are then discussed to create a multidisciplinary approach for change. Finally, a framework is introduced for using service design to enable workplace change as a tool for work transformation.

3.1   Service design as a transformative approach to organizational change

In this chapter, service design is introduced as an approach to organizational development and change that can support realizing transformative potential of a workplace change pro-

jects with focus on bottom-up approach to implementation after physical relocation. Principles of service design thinking provide a mindset that helps in combining different levels of objectives. Linking service design to organizational change further expands scope of service design as an inquiry to organizations' fundamental assumptions, norms and values. Service design process can be used to connect change project with building organizational capabilities for continuous change through an iterative learning process.

Principles of service design thinking

Service design is a human-centred, multidisciplinary and transformative approach to service innovation (Sangiorgi et al. 2019, 147). Tschimmel et al. (2015, 56) argue that service design is one of the fields that have risen in popularity together with the idea of *design thinking*, which has brought designers' way of thinking and working to all kind of organizations. Brown (2008, 86) defines design thinking as a methodology that combines the full spectrum of innovation activities with design ethos. Design thinking provides a mindset, where principles of design are applied to the way people work (Kolko 2015, 4). Stickdorn et al. (2011, 18) introduced concept of *service design thinking* to emphasize the way of thinking shared by designers as the defining factor that connects many different disciplines into service design approach. Shared principles of design thinking, and service thinking are discussed next.

Human-centric design focuses on establishing a deep understanding and creating *empathy* for those people that are targeted with the design initiative. They are considered as real people with real problems, emotional and rational needs and wants. (Liedtka & Ogilvie 2011, 16) Empathy makes human-centric design distinctive from many traditional design practices by shifting focus away from improving functionality of products and towards focusing on people and their fundamental needs with objective of design to provide solutions for those specific needs (Luchs 2016, 9). *Holistic* and *integrative* understanding is archived by using design methods and tools to investigate people's experiences, needs, values, emotions, interactions and practices as main source of inspiration for design (Meroni & Sangiorgi 2011, 203). Designers are also required to become increasingly aware of cultural influences that impact how designed solutions could be implemented in different contexts (Stappers & Sanders 2004, 77).

Service design offers *a multidisciplinary* platform for collaboration to people from different educational and professional backgrounds that might not otherwise consider themselves as designers (Moritz 2005, 34) Service design can facilitate collaboration by providing a common design language and an easily approachable set of design tools and activities (Stickdorn et al. 2018a, 22). Furthermore, toolbox of design techniques is continuously growing by borrowing from other disciplines such as ethnography (Giacoming 2014, 614). Inclusive and participative approach of service design broadens design perspective to include all stakeholder groups impacted by designed solutions and brings them together early in the design process (van Der Bijl-Brouwer 2017a, 188; Meroni & Sangiorgi 2011, 203). Sangiorgi et al. (2019, 156) conclude

that dual dimensions of understanding and engaging people in the process of designing better solutions makes it possible to put what is learned to action by making and creating.

Co-creative *workshops* are used to facilitate *explorative* and *creative* nature of service design (Sangiorgi et al. 2019, 154) *Visualizations* communicate and articulate insights and maintain empathy through the design process (Segelström 2009, 179). *Prototypes* provide a cheap and quick to test ideas and to demonstrate what the future could be (Blomkvist 2014, 23-24). *Iterative* nature of service design of going through multiple cycles of improvement *supports a growth mindset* by reframing failure as an opportunity for learning, supporting a sense of forward progress, and strengthening the belief in participant's creative ability (Gerber & Carroll 2012, 70). Ultimately, a successful service design process leads to sustainable and relevant solutions that benefiting all stakeholders (Anderson et al. 2017, 4).

Service design and organizational change

Kurtmollaeiv et al. (2018, 59) argue that notion of service design has outgrown its original narrow interpretation of developing innovative services. Service design, drawing heavily from design thinking, has been recognized for holding potential to grow into a powerful transformative approach for changing organizations on a fundamental level. In Suciu and Baughn's (2016, 788) view, a design approach to organization change builds on same design principles, but focus is on innovation of the organization itself. Service design can be particularly effective approach for overcoming challenges of multi-layered transformations where organization is required to change both its processes and underlying mindset (Calabretta et al. 2016, 91). Burns et al. (2006, 21) conclude that goal of transformative design is not only to create new solutions but to provide organization with tools, skills and capabilities for continuous change.

Building on Rousseau's (1995, 48-51) definition of organizational culture as a system of five interconnected layers, Junginger and Sangiorgi (2009, 4345-4346) presents a three-level classification of service design projects based on their potential impact on organizational culture as a key factor in creating lasting organizational change. Figure 3 visualizes how service design project typically begins at the periphery of the organization, focusing on visible layers of artefacts and behavioural patterns. Engaging organization into questioning its norms and values can gradually move focus towards inner layers of organizational culture. Finally, questioning fundamental assumptions that frame the current situation can lead into organizational transformation. Outcomes and impact for organizational culture of different types of service design projects and changing role of service designer are discussed next in more detail.
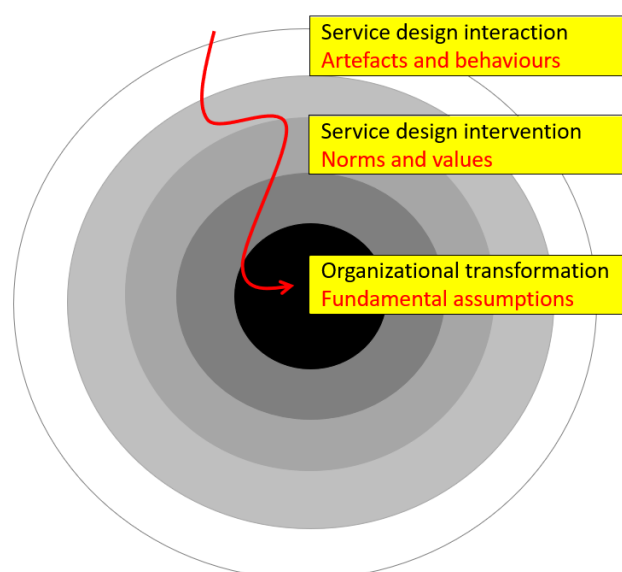
Figure 3: Three levels of potential impact of service design (Adapted from Junginger & Sangiorgi 2009, 4346)

Service design interaction refers to a traditional approach to service innovation. Moritz (2005, 7) describes it as a practice of creating new or improving existing services, making them more useful, usable and desirable for customers and efficient and effective for organizations. Akoma (2009, 3) argues that such projects have a rationalistic problem-solving emphasis but may lack higher level objectives or a holistic human-centric approach. For example, Shostack (1984, 134) presents a service blueprint model that allows for organization to explore all the issues inherent in creating and managing a service. However, inquiry remains at interactional level focusing on developing visible artefacts provided to customers and behaviours expected from employees delivering the service. According to Junginger and Sangiorgi (2009, 4344), focusing only on the daily operations prevents consideration of deeper organizational insights. In Gasson's (2004, 41) view, another limitation of interactional approach is that emphasis is put in creating solutions based on fixed designs that support only a few pre-determined use patterns, limiting possibilities for exploration and learning. Stickdorn et al. (2018a, 270) conclude that overly relying on interactional approach has historically led to critique of service design for being weak at the implementation phase and creating lasting cultural change.

Service design intervention expands design inquiry to engaging organization members into questioning its norms and values underlying the daily operations. Intervention requires building capacity to read and interpret the organization itself, and to re-think organization elements around daily operations by visualizing and demonstrating the value of change. (Junginger & Sangiorgi 2009, 4346) According to Akama (2009, 3), shifting focus towards a more holistic design approach requires using participative methods and significant involve-

ment or organization members in design activities. Providing creative and collaborative ways to engage people into design inquiry supports them in applying their own resources and reflect their personal needs and desires (Yu & Sangiorgi 2018, 51). Auernhammer and Leifer (2019, 1208) suggest that forming an understanding of emerging and recurring patterns of activities, behaviours and worldviews can be framed as human challenges within the organization. Doing so makes it possible to generate new organizational design solutions focused on the challenge at hand rather than implementing more generic strategies. Deserti and Rizzo (2014, 42) conclude that revealing tensions between the search for innovation, and the simultaneous necessity of relying on established solutions, can build a link between service design, culture creation and managing organizational change.

Organizational transformation requires a shift in the assumptions made by the organization and its members and can result with an organization that has significantly different structures, processes culture and strategy (Deserti & Rizzo 2014, 38-39). Design inquiry is used to engage organization members into a conversation unveiling fundamental assumptions of the organization and showing how those frame their current situation. People are then supported in working together towards and agreed vision and co-creating an agenda for change. (Junginger & Sangiorgi 2009, 4344) Sangiorgi et al. (2019, 156) argue that enabling learning and acting on what has been learned are necessary preconditions for fundamental organizational change. One of the developmental outcomes for providing an opportunity for organization to learn about itself is creating a more human-centred organization. Furthermore, engaging organization members into design as a learning process is a way to acknowledge that a range of different people are capable for making necessary improvements and making transformation possible (Sangiorgi & Junginger 2015, 168). Deserti and Rizzo (2014, 38-39) conclude that organizational transformation based on design principles results in creation of an organization with capabilities to continuously learn, adapt and improve.

Roles of service designer can evolve thorough a service design project. Calabretta (2016, 102) describes a range of tasks including for example designing a solution for a problem in physical environment, facilitating conversations by asking the right questions, providing valuable inputs, helping to identify and summarize core issues and ultimately supporting organization in realizing co-created organizational change. According to Junginger and Sangiorgi (2009, 4345), a long-term collaboration is necessary for organization members to build trust in the design process and commitment for developing and implementing transformative insights. Service design process model used by service designers to organize design projects and the Double Diamond process model used in this study are discussed next.

The Double Diamond design process model
Design process models are used to control workflow and to apply design thinking principles to design projects. There are numerous elaborate design processes presented by different au-

thors and design agencies, but they can all be boiled down to a few basic principles. (Lindberg et al. 2010, 243-244) Presenting design processes as clear and graphical models help designers and non-designers to understand the whole design process and enable them to work together (Bobbe et al. 2016, 1206). Process models divide design project into several sequential phases that supports planning and scheduling tasks (Tschimmel 2012, 5). Furthermore, sequential phases provide the design process structure by forming a recurring pattern of creating and reducing design options while moving the process along (Stickdorn et al. 2018a, 85).

Design projects should be considered as iterative learning processes even though design models are typically visualized as linear processes. Trial and error nature of service design imply that it is always possible to return to an earlier phase of the process or even start over. (Stickdorn et al. 2011, 124-126) A set of different design methods and tools are used according to the state of the design process and the type of design challenge (Pryzibilla et al. 2918, 3). Stickdorn et al. (2011, 125) conclude that designing the service design process itself is the very first step of the design project, because contents of the project should always be based on the specific context of each individual design project.

In this study, *the Double Diamond process model* first developed by the British Design Council in 2005 (Design Council 2007, 6), was used. In Clunet and Lockrey's (2014, 80) view, the Double Diamond model provides and overarching and replicable framework that can be utilized in a diverse range of projects. According to Zhang et al. (2009, 4) it is considered among the most efficient and convincing design process models. The Double Diamond model was chosen for this study because of its clear and comprehensive design. Figure 4 visualizes the version of the model used in this study, which synthesizes insights from many different authors.
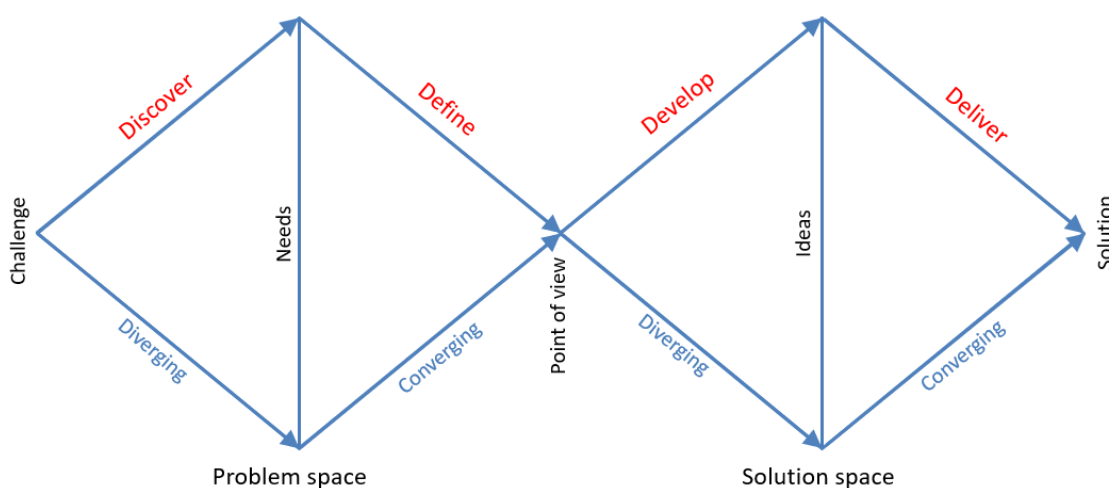

Figure 4: The Double Diamond process model (Adapted from Design Council 2007, 10)

The Double Diamond process model aims to provide a simple graphical of way of describing the design process and the different modes of thinking that designers use in four distinct

phases of *Discover*, *Define*, *Develop* and *Deliver* (Design Council 2007, 6). The two diamond-shaped halves of the process model constitute the problem space and the solutions space. First half is dedicated to learning about the design challenge and development needs, and second half to creating ideas for a solution for the challenge. Together, problem space and solution space form an iterative cycle. (Lindberg et al. 2010, 243-244) Within each space, there is a diverging (explorative) phase that widens the space followed by a converging (defining) phase that narrows the space (Przybilla et al. 2018, 3). Bobble et al. (2016, 1210) conclude that by incorporating widening and constraining elements, the Double Diamond model emphasizes the many changes of scope that take place during the design process. The four phases of the Double Diamond model are discussed in more detail next.

In *the Discover phase*, the first quarter of the design process, goal is to develop an understanding of the nature of the problem by forming insights related to the design challenge (Design Council 2015, 7). Multiple different types of qualitative and quantitative research methods are used to collect a comprehensive data for a deep understanding of people, their motivations and behaviour (Stickdorn et al. 2018a, 98-98, 107-108). Goodwin (2009, 52) argues that comprehensive research at this phase of the process also helps to reduce opinion-based decision-making later in the design process by making it easier to convince people about development needs by being able to back up reasoning with data.

In *the Define phase*, the second quarter of the design process, goal is to make sense of different development needs emerging from the data to further define the fundamental design challenge (Design Council 2015, 7). Rhea (2003, 145) describes this stage as "the fuzzy front end" of the design process, where a point of view is gradually defined by discovering what, for whom, and why and how is developed. Converging ideas, alternatives and opportunities makes sure that the right problem is solved (Stickdorn et al. 2018a, 89). Different methods are used to synthesize, analyse and visualize collected data and to share and communicate the data and insights with others. Research outcomes can be used as input for other design activities later in the design process (Stickdorn et al. 2018a, 114, 127).

In the *Develop phase*, the third quarter of the design process, goal is to create and test solutions for the defined problem (Design Council 2015, 7). Methods and tools encouraging divergent thinking are used to cognitively explore the theme and to deliberatively generate a high quantity of ideas or fixes (Stickdorn 2018a, 158). Develop phase forms a process where potential solutions for each theme can be conceptualized through creative and participatory design workshops (Clune & Lockrey 2014, 72). According to Kaner et al. (2014, 280-281), if multiple solutions are created, participants may enter to "a groan zone", where they still hold to their personal frame of reference between different options before a shared framework for understanding can be formed. Decision-making tools can be used to reduce friction and prepare ground by sorting information, flagging favourites or slicing big decisions into more managea-

ble questions (Stickdorn et al. 2018a, 167-169). Experimentation and collecting feedback on different options allows converging towards a final solution (Przybilla et al. 2018, 3).

In *the Deliver phase*, the final quarter of the design process, goal is to finalize designed solution and support its launch to operational level (Design council 2015, 7). Stickdorn et al. (2018a, 270, 275) describe implementation as creating change which impacts different stakeholders and processes of the organization. They conclude that, implementation poses a challenge for change management in service design, because designed solution always explicitly or implicitly involves establishing a desired way for stakeholders to behave. Burns et al. (2006, 21) argue that overcoming dependency on "expert" designers for implementation is at the heart of transformative design approach with its goal focusing not only in delivering new solutions but in providing organization with tools, skills and capabilities for continuous change.

3.2   Stages of planned organizational change

This chapter builds on transformative service design approach by introducing van Aken's (2007) design science perspective to planned organizational change as a series of stages. He argues that design science perspective on organizational change can support more effective change in knowledge-intensive organizations by combining business and humanistic values through design, performance, and learning with focus on organization members and their needs as those people directly producing the performance improvement (van Aken 2007, 83).

Van Aken (2007, 74) describes his approach as the design science variant of Lewin's (1951) well-known three-stage "ice cube model" of planned organizational improvement through a process of unfreezing, moving and freezing. Similarly, van Aken divides change process into three stages that relate to the way in which the formal organization is redesigned during planning and the 1st formal redesign, the way this design is translated by organization members into their own roles and routines during 2nd informal redesign, and the way in which subsequent organizational learning produces the intended performance improvement (van Aken 2007, 67). However, rather than refreezing the formal organization at the end of the planned change project, aim is to turn design into action based on lessons learned by supporting continuous adaptation of the organization (van Aken 2007, 76).

In this study, design science approach is used to complement service design process in the context of workplace change by expanding perspective beyond the scope of the design activities that can be performed during the thesis work directly after relocation. Design science approach provides a perspective for combining top-down and bottom-up approaches to organizational change and building organizational capabilities for continuous learning and change.

Figure 5 visualizes how van Aken's (2007) process model is applied in this study. First stage covers a top-down process of planning and the 1st formal redesign by external consultants

that takes place before relocation. Second stage covers a bottom-up process of 2nd informal redesign by organization members after relocation. Third stage covers organization members learning to perform together enabling continuous change towards work transformation. The humanistic approach is actualized through focus on stages of bottom-up 2nd and the learning for improvement. Stages of organizational improvement are discussed in more detail next.
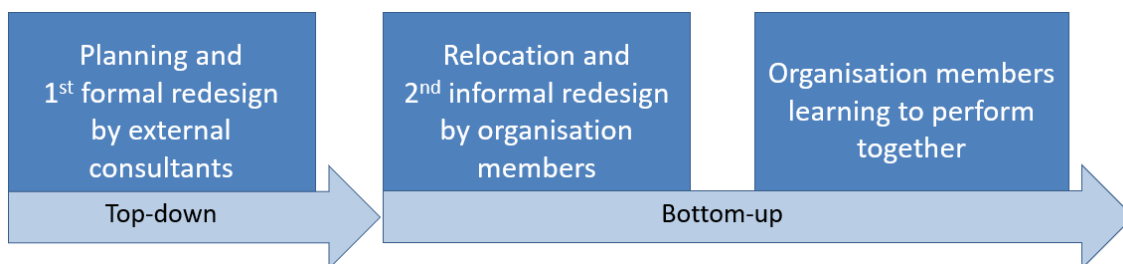

Figure 5: Stages of workplace change as planned organizational improvement (Adapted from van Aken 2007, 74)

Before relocation: Planning and the 1st formal redesign

The process of planned improvement typically starts as a top-down effort with the recognition of a performance problem or opportunity by a sufficiently powerful stakeholder in the organization, mobilizing necessary support to start the project, defining the problem and the desired performance improvements and constructing a project plan. Subsequently, the organization is being prepared for the redesign and change processes by sharing the problem definition and the project objectives with rest of the organization. (van Aken, 2007, 74-75).

During the 1st formal redesign process, an of the design solution is made based of specifications, analyses and formal design knowledge by professional external consultants. The 1st formal redesign of the formal organization covers redesign of strategies, formal roles, routines and work processes and it is authorized by responsible management. (van Aken, 2007, 75) In context of a workplace change, the 1st formal redesign taking place before relocation should include for example the physical lay-out of the new office and formal descriptions dictating how organization members are expected to function in order to realize desired performance improvements.

The 1st formal redesign is typically based on available general knowledge on relevant issues and turning this information into a specific solution for the project in question (van Aken, 2007, 75). Pal and Shiu (2004, 3) refer to this process as case-based reasoning, where new problems are solved by adaption of already discovered solution to older problems. In case of workplace change project, this could mean taking an existing office design concept and tailoring it to needs of the organization. Success and failure factors of similar earlier comparable projects should also be considered.

Lin et al. (2011, 81) argue that 1st formal redesign should be considered as a prototype of the future organization. Only minimum specifications should be set to create just enough structure for desired interactions to take place but leaving enough room for customization by organization members themselves, supporting active learning through trial and error.

After relocation: 2nd informal redesign

The 2nd informal redesign is about starting operations in the new structures directly after their formal introduction. During the 2nd informal redesign process, the designed changes are translated by the organization members themselves who consciously but also naturally, intuitively and creatively self-design their own individual strategies, roles, routines and work processes. Self-design is primarily guided by the 1st formal redesign outlining the effort for realizing improved performance, but also based on their personal ideas and preferences. The 2nd informal redesign produces an informal organization, expanding and adapting the formal organization at an individual level through interactions between organization members. (van Aken 2007, 75-77)

In context of workplace change, 2nd informal redesign takes place after relocation. Inalhan (2009, 27-28) describes this as a process of an ongoing reassessment of the new environment with noticeable behavioural changes arising from new office design and changed social context with organization members coping with need to establish a new identity and routines.

Van Aken (2007, 78) underlines the importance of using participative implementation approach during 2nd informal redesign to give organization members an active role in the change process rather than being passive recipients. They should be considered as fellow designers who have the power to dictate the extent that 1st formal redesign influences the 2nd informal redesign that ultimately directs and determines action. Accordingly, self-designing should be supported by change agents individually or in group sessions, but it is ultimately always done by organization members in relation to their own work (van Aken 2007, 76).

Van Aken (2007, 77) concludes that organization always has "hidden properties" and the total of these hidden properties may be regarded as the informal organization that is always infinitely more complex that its representation in the formal redesign. Nathan and Doyle (2002, 18) refer to this contradiction as the divide between visible and invisible organization. In their view, visible organization refers to those aspects of the organization that can be seen such as physical environment and rules dictating how it should be used by organization members. Invisible organization refers to cultural aspects such as communication and behavioural patterns that emerge when people interact. It can be argued that while the visible organization can be changed following the plan constructed in 1st formal redesign, the invisible organization, as a combination of 2nd informal redesign by organization members, tends to resist change, because culture evolves slowly and organically.

In this study, researcher as an internal service designer using service design methods and tools is well positioned to act as a change agent, supporting change on an individual and group level while collecting data and feedback for evaluating of the new environment.

Learning to perform together

Most important part of the development process begins once the 2nd informal redesign is carried over to the third stage of further development based on what is learned in actual practice. It is at this stage when organization members must learn to successfully operate together in the new setting in order to realize actual desired performance improvements. During this learning process, adaptations become smaller and smaller over time and the process eventually merges into process of continuous change. If all goes well, the new informal organization complements and supports the new formal organization. (van Aken 2007, 76-77).

Van Aken (2007, 78) underlines that planned change should have a learning focus on the actual development and learning of effective roles and routines and the production of intended performance, with the designed formal system not as the end but the means. This means that organization members must also become committed to realizing the intended performance improvement resulting from changes in the cultural system of the organization. Formally allowing adjustments based on evaluation of progress can ease the at times heated discussions on design choices made for the new formal organization. (van Aken 2007, 81-82)

Need for organization members to learn to perform together is particularly high when relocation takes them to a new office type. Van Diermen and Beltman (2016, 281) argues that relocation eventually requires organization members to consider translating how changes that affect "me" can contribute to a workplace that benefits "us". In Kira et al. (2012, 35-36) view, collaboration is necessary to develop and learn new and shared ways of working and work processes. Harrison et al. (2004, 112) conclude that the process of going beyond immediate activities of a single organization member and their personal preferences to a wider organizational context is a key factor in realizing the full range of opportunities of workplace change. Over time, this can produce cultural change and enable reaching higher level objectives through organizational learning.

3.3   Organizational change as a series of conversations

In this chapter, thinking about change as a progressive series of conversations (Ford, 1999) is discussed as means to support bottom-up approach during 2nd informal redesign and learning to perform stages of workplace change. In this approach, conversations are used to steer formation of the invisible organization towards desired work culture, in a sense bringing hidden properties closer to the visible organization, by engaging organization's members to talk about issues related to change in a structured way throughout the change process.

Ford (1999, 492-493) argues that conversations, understood as different types of intentional and participative communication, can support moving the change process along by providing opportunities for organization members to discuss topical issues. Conversations can take different forms, such as facilitated workshops, and have a distinct focus and role in producing organizational change. Ultimately, goal is to create the conversational realities that produce effective action towards desired performance improvements.

Lin et al. (2011, 78) in effort to bring change management theories into design practice adapted Ford's model for implementing and spreading service design in large and complex organizations. Figure 6 portrays their adaptation of progressive conversations as "the cake model of change", where each layer of a four-layered cake builds on the foundation of previous layers of facilitated conversations among organization members involved in the change. For example, talking about "what to do" is only valuable after appropriate time and effort for helping organization members to relate to the underlying objectives of the required action and involving them in considering a variety of possibilities for archiving those objectives.
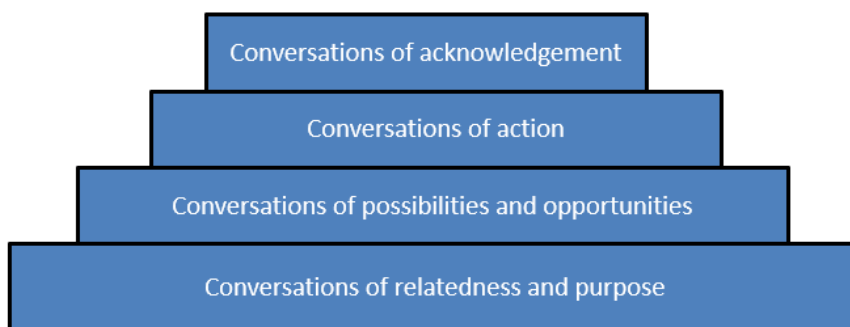
Figure 6: The cake model of change (Lin et al. 2011, 78)

Lin et al. (2011, 78) suggest that each layer of conversations can be designed for by choosing a strategy or approach, tone of execution, and tools for supporting the process. Service design methods and tools can be used and customized according to the stage of the change process and focus of the conversation to facilitate conversations in a structured way. Different layers and types of conversations are discussed next in context of workplace change.

Conversations of relatedness and purpose
Initiative phase of implementation of workplace change process can be considered to take place after expert-led planning and 1st formal redesign is complete, but before 2nd informal redesign begins. Ford and Ford (1995, 546) suggest that at this preliminary stage, conversations should aim to focus organization members' attention on what could or should be done in order to motivate them the upcoming change. Discussions related to the issues driving the need for change also sets the tone for the following conversations during the change process. Lin et al. (2011, 78) argue that the best way to motivate organization members is to create a

strong foundation of shared purpose. Relatedness can be built through transparent and open communication, creating belief in the reasons why it is important to change behaviour, understanding the common goal, and the role that individual behaviour plays both in contributing to the challenges and solving them.

Initial conversations can also help in basing implementation on a clear understanding of the existing culture and a realistic appraisal for its capacity for change (Harrison et al. 2004, 152). Current situation is often tied into work identities developed over time that are in danger of being lost in profound change (Kira et al. 2012, 34-35). Understanding organization members' old habits and attachments is important for being able to manage, encourage and support implementing new behaviours necessary to make change happen (Inalhan 2009, 26). Harrison et al. (2004) concludes that preparing organization members for change helps in managing expectations towards a shared vision of where change is taking us and why.

Conversations of possibilities and opportunities

Shift in the conversations happens after physical relocation is complete and stage of individual 2nd informal redesign has begun. Organization members begin to form an understanding of what their work in the new environment is supposed to be like, what its nature and overall purpose of change is and how work should be carried out (Kira et al. 2012, 45).

In Ford and Ford's (1995, 548) view that conversations should focus on generating involvement and participation by supporting organization members to form a shared language for talking about the new situation and to make sense of the meaning of change. Dialogue should provide opportunities to examine the underlying assumptions and to express rising concern, ideas and suggestions about what works and what does not. Lin et al. (2011, 81-82) describe this phase as the period of trial and error and customizing for ownership. Rather than being directive on what needs to be done, organization members are provided opportunities to discuss what should be done, what are they willing to try or change, and if something does not work, how it should be changed. According to Allen et al. (2004, 71), adjustments should be considered based on evaluation of how far the organization has moved culturally towards desired behaviour and objectives. Ford and Ford (1995, 549) conclude that an important by-product determining conditions of satisfaction that define the intended end point of change.

Conversations of action

Shift in conversations happen once organization is ready to begin moving towards learning to perform together stage of the change process. Ford and Ford (1995, 549, 554) argue that it is at this stage where conversations should focus on determining and generating action that is needed to produce intended results and desired organizational change. Organization members felt responsibility for making constructive change happen can be increased by raising their awareness of how their actions could benefit others (Fueller et al. 2006, 1112).

In Lin et al. (2011, 82-83) view, for change not to stagnate it is important to be able to clear-ly communicate who is doing what based on what has been learned so far. This can support building confidence in a new way of doing things and excitement to get everybody on board. At the same time, facilitated conversations should remain solution-focused and look for con-crete ways to overcome challenges and pushback. Ford (1999, 492-493) conclude that creat-ing concrete plan for action is crucial because although many change efforts tend to be domi-nated by conversations of understanding possibilities and opportunities, these conversations alone are insufficient for producing lasting change.

Conversations of acknowledgement

Final shift in conversation happens once actions supporting organization members learning to perform together are in place and organization is ready to move towards continuous adapta-tion and change. Ford and Ford (1995, 551-552) conclude that it is important to bring closure to the more intensive change process. Focus should be on acknowledging that regardless of how successful or unsuccessful the change effort has been so far the future now contains pos-sibilities and opportunities that did not exists before the change effort. Lin et al. (2011, 84) suggest that celebrating successful features of the change can increase sense of ownership among organization members and willingness to keep on working with ongoing issues. A varie-ty of ways to measure success can be developed to make progress visible and engaging.

3.4   Individual and collaborative job crafting

Changes in the organization envisioned in the 1st formal redesign impact how work is expected to be conducted by organization members in the future. This means providing new opportuni-ties but also setting new expectations. These aspects can be referred to as job demands and job resources that are altered as a result of workplace change (Gordon et al. 2018, 99-100).

Job demands refer to physical, social and organizational aspects of the job requiring physical or mental resources and effort. Job resources refer to aspects of the job that are functional in archiving work goals, reducing resources needed to meet job demands, or stimulate per-sonal growth, learning and development. (Demerouti et al. 2001, 501-502) Gordon et al. (2018, 99-100) argue that the goal of a workplace change should be to offer a high but man-ageable level of job demands balanced with high enough level of job resources. They con-clude that this outset can result in positive outcomes for individuals and organization because organization members are able and willing to do their best in the new environment.

In this chapter, job crafting is discussed as a bottom-up approach for supporting organization members in translating 1st formal redesign into individual 2nd informal redesigns and in learn-ing to perform together. Job crafting refers to naturally occurring behaviour performed by all organization members when they conduct personal adjustments at work (Wrzesniewski & Dut-ton 2001, 179). Niessen et al. (2016, 1289) argue that job crafting is driven by strive to align

work with individual needs and values. When crafting their jobs, organization members use job demands and job resources as raw materials to proactively construct their workdays, shape their work experiences, and give meaning to their work (Tims et al. 2013, 428).

As a part of its change implementation approach, organization can support job crafting by recognizing the importance of individual organization members' proactive role in adapting to new situation and making change happen (Ghitulescu 2012, 233-234). Individual and collaborative job crafting in context of workplace change are discussed next in more detail.

Individual job crafting

Job crafting during workplace change is targeted at finding appropriate ways of responding to, dealing with, or coping with the new situation (Petrou et al. 2015, 471). Job crafting after relocation can be considered as an integral part of organization members' process of forming their individual 2nd informal redesigns for operating in the new environment.

Van del Heuvel et al. (2015, 514-515, 524) suggest that job crafting can be supported by introducing organization members to job crafting tools and strategies. Doing so can support active use of available job resources by increasing awareness of developmental opportunities and encouraging a proactive approach towards change by taking steps in learning to use the new environment in a conductive way. Supporting employees in developing skills related to for example applying time management, responsible delegation or optimization of work processes can be used as a constructive way of reducing job demands (Petrou et al. 2015, 477).

Leana et al. (2009, 1175) argue that another reason to steer individual organization members' job crafting efforts is to detect and prevent behaviour that is not conductive towards desired change. For example, learning can be impaired, and collaboration made more difficult if every organization member is crafting their job only to meet their own preferences.

According to Demerouti et al. (2015, 94), harmful job crafting can occur, if organizational changes are perceived as highly impactful and uncontrollable. Feelings of elevated stress of helplessness can lead organization members striving to preserve their own resources by diminishing their job demands as a coping mechanism. They are more likely to protect rather than enhance themselves by for example minimizing emotionally, mentally or physically demanding aspects of work (Petrou et al. 2015, 472). Bizzi (2017, 437) concludes that if organization members remain unsupported in the new environment, unresolved issues can eventually create tensions between one's own preferences and in responding to expectations of others.

Collaborative job crafting

Positive aspects of individual job crafting can be enhanced, and negative aspects addressed through collaborative job crafting during the stage of organization members learning to perform together. According to Mattarelli and Tagliaventi (2009, 613), while individual job craft-

ing is primarily a process of finding a personal fit at work, collaborative job crafting is concerned with the whole organization. Collaborative job crafting can therefore provide opportunities for organization members to co-create their environment (Vogel et al. 2016, 1562).

Bertolotti et al. (2005, 378) argues that sharing ideas with colleagues regarding what works and what does not work creates more alignment in their work and collaboratively refining these insights generated during individual job crafting can lead into organizational outcomes. Collaborative job crafting can also provide organization members with possibilities for collectively question existing working procedures, reveal development opportunities and otherwise hidden benefits (Nielsen 2013, 1036; Babapour 2018, 90).

Individual and collaborative job crafting can be considered as serving different purposes. Together, these two forms of job crafting can be considered as complementary dual job crafting. Mäkikangas et al. (2017, 422) argues that while individual job crafting may not always be aligned with organizational objectives, refining these objectives through collaborative job crafting makes it more likely that job crafting behaviours benefit the whole organization. McClelland et al. (2014, 465) conclude that supporting both individual and collaborative job crafting can therefore provide a tool for culture creation during workplace change as it helps forming a shared understanding of how work should be performed in the new environment.

Figure 7 illustrates how individual and collaborative job crafting can form an iterative cycle that supports organization members learning to perform together by helping align their individual behaviour with organizational objectives. Supporting individual job crafting helps in communicating results of 1st formal redesign and provide organization members with tools and strategies for their individual 2nd informal redesigns. Collaborative job crafting supports organization members in learning to perform together by combining 2nd informal redesigns.
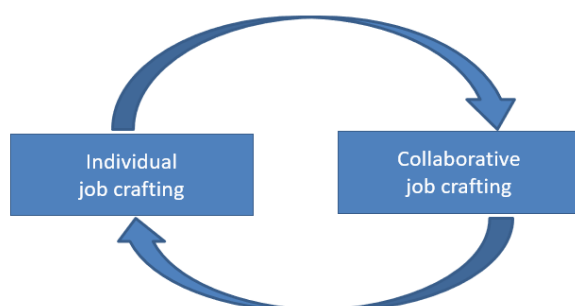
Figure 7: Individual and collaborative job crafting forms an iterative cycle

3.5   Theoretical framework for service design approach to work transformation

The theoretical part of this research focused on building understanding necessary for answering the research question of how can service design enable using workplace change as a tool for work transformation. New Ways of Working and activity-based office concept as means to

bring modern work environments and work practices provided a platform towards improved knowledge work performance based on creating a knowledge culture. A multidisciplinary service design approach to organizational change focusing on supporting bottom-up implementation was discussed as a method for realizing transformative potential of workplace change.

The theoretical framework for this study consists of the elements discussed in the theoretical part and it was created based on the literature of previous chapters. Theoretical framework aims to visualize and share understanding of the thesis writer on how these theories link to the main goal of using service design to enable workplace change as a tool for work transformation. Figure 8 illustrates how different theories are synthesized to create a framework depicting workplace change as a gradually deepening learning process divided into various steps and phases and supported through service design methods and tools. Interconnected elements of the framework are discussed next in more detail.
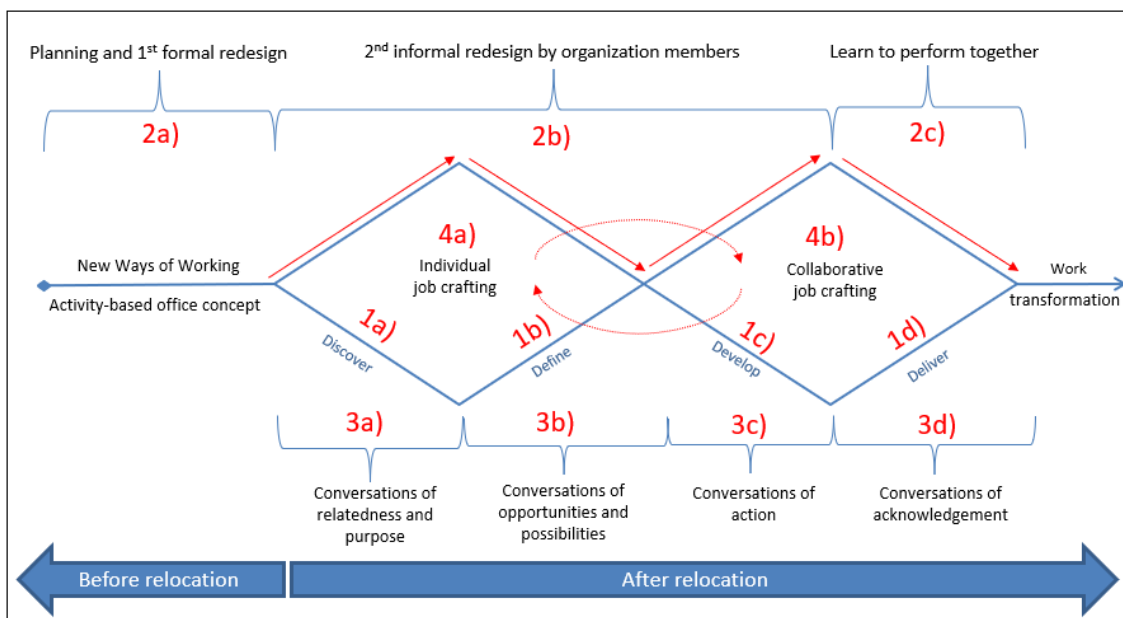
Figure 8: Theoretical framework for service design approach to work transformation

Underlying thinking behind the framework is supporting modern knowledge workers as active participants in the change process in realizing objectives for workplace change. Furthermore, focus is at the implementation that takes place after physical relocation is complete.

At the core of the framework is the Double Diamond design process (Design Council, 2007) that provides a platform for applying service design thinking principles, methods and tools for development challenge and the organizational change process. In discover phase (1a) qualitative research methods are used to form an understanding of how and why organization members use activity-based office concept after relocation. In define phase (1b) insights are turned into developmental needs by evaluating validity of activity-based office concept based

on what works and what does not. In develop phase (1c) adjustments are co-creatively developed to address developmental possibilities. In deliver phase (1d) adjustments are integrated into existing structures of the organization enabling continuous adaptation and learning.

Service design methods and tools are used to engage organization members to a gradually deepening inquiry into organization's fundamental assumptions, values and norms in support of creating change towards a desired knowledge culture (Junginger & Sangiorgi, 2009). Transformative potential of service design is realized by interweaving various change management theories into an interconnected and layered approach to organizational change.

An overarching theme of the framework is view of workplace change as an ongoing learning process supported by service design principles and methods. This view in conceptualized through van Aken's (2007) model based on design science approach of depicting planned organizational change as three interconnected stages. Model can be used to expand view of workplace change to cover stages before relocation, right after relocation and once things begin to settle. Top-down expert-led planning and 1st formal redesign stage (2a) provides guidance for organization members by creating a prototype of the future organization in the new situation. Bottom-up 2nd informal redesign stage (2b) recognized organization members as active participants in the change process who translate suggested changes into their individual 2nd informal redesign through a process of trial and error. Design is turned into action when organization members learn to perform together (2c) through a process of continuous adaptation that ultimately makes it possible to realize desired performance improvements.

Participative communication is recognized in the framework as a key element in producing desired organizational change by supporting co-evolvement of work culture and work environment into alignment. Ford's (1999) view of change as a progressive series of intentional conversations is incorporated to the phases of the Double Diamond design process. Conversations with changing focus at different phases of the implementation process can be facilitated using service design methods and tools to (3a) motivate organization members to upcoming change by finding relatedness and purpose, (3b) recognize possibilities and opportunities in the new situation, (3c) create concrete actions towards desired change, and finally (3d) get closure to more intense change efforts in transition to phase of continuous adaptation.

The framework aims to provide tools for organization members to be able and willing to do their best in the new work environment. Service design methods and tools are used in support of individual and collaborative job crafting (Wrzesniewski & Dutton, 2001) that supports organization members in meeting job demands and utilizing job resources (Demerouti et al., 2001) altered as a result of workplace change. Individual job crafting (4a) is supported by providing organization members with tools and strategies to constructively and proactively customize their ways of working after relocation to find a personal fit at work. Collaborative

job crafting (4b) is supported by providing opportunities for organization members to collectively refine insights created in individual job crafting to align behaviour towards objectives that benefit the whole organization.

To summarize, elements of the theoretical framework put together aim to support using workplace change as a tool for work transformation. Organization is helped in breaking out of its traditional definition of work by questioning its ways of working, where work takes place and what kind of environment best supports its operations (Robertson 2000, 376). Along with change in physical space, workplace change is considered as a social and cultural change process of moving from "old ways of working" to New Ways of Working (Skogland 2017, 62).

The framework provides the theoretical background for the empirical part of the study that is discussed in the following chapters. In the final chapter of the thesis features of the theoretical framework are evaluated together with other aspects of the study based on what was learned during the empirical part.

4   Research approach of the empirical part of the study

Research approach covers the plans and the procedures for research, ranging from broad assumptions to detailed methods of data collection, analysis, and interpretation (Creswell 2014, 3). Case study method was chosen as a research strategy for this study. Double diamond model was used to carry research out and provide a frame for selecting, combining and sequencing service design methods and tools used for data collection. Practical use of various research methods during the study are discussed along with tasks of researcher as a facilitator. Coding for themes is discussed as the primary method for data analysis and interpretation. Finally, research methods used during the study are connected to various research questions and to the timeline of the case study project.

4.1   Case study as a research strategy

Case study is as an empirical inquiry that investigates a contemporary phenomenon within real-life context (Yin 2003, 13). The purpose of intensive study of a single case is to understand a larger class of comparative cases (Gerring 2007, 20). According to Gillham (2000, 1), "case" refers to a unit of human activity, which can be an individual, group, organization or community. The case study method is a useful strategy when "how" or "why" questions are asked and allows researcher to retain the holistic and meaningful aspects or real-life events, such as organizational processes (Yin 2003, 1-2).

Case study can be considered as a main research method, and within it, different sub-methods are used for data collection (Gillham 2000, 13). According to Gerring (2007, 10-11), case studies have traditionally been associated with qualitative methods, but many case studies include some quantitative and qualitative components. Collecting research data using

qualitative methods is one of the core tools of service design (Stickdorn et al. 2018a, 38). Qualitative research methods are commonly used by designers in the early phase of the project for understanding emotional side of design problems that requires a deep inquiry to reasons underlying people's behaviour (Polaine et al. 2013, 40). Qualitative data is also collected at other phases of the design process for example by conducting collaborative workshops.

Yin (2003, 97-106) suggest following three principles of data collection that together improve validity and reliability of the case study. First principle is to use multiple sources of evidence. This principle can be met by accumulating data of the same issue using different methods and it is part of the multi-method approach of triangulation (Gillham 2000, 13). Case study researchers should therefore look for different kinds of evidence, for example what people say, what you see them doing, what they make or produce, and what documents and records show. Woodside (2010, 6) adds that to archive a deep understanding of the case requires expanding research activities across multiple time periods. Gerring (2007, 33) considers the opportunity to employ a great variety of methods as a strength of the case study method, because this makes case study a highly flexible research approach.

Second principle is to create a database for organizing and documenting the data collected for case study. Yin (2003, 101-102) suggests that the raw data collected during the fieldwork should be separated from the report done by the researcher based on that data. At the same time, adequate evidence must be presented within the case study report for reader to draw independent conclusions about the case study. Another guideline is to develop a method for labelling, storing, and gaining access to data collected during the research effort. Doing so helps researcher to more easily interpret the vast amount of information accumulated in a case study project. (Hancock & Algozzine 2006, 57)

Third principle is to maintain a chain of evidence in the research report that allows reader to follow the case study process all the way from forming initial research questions to final conclusions (Yin 2003, 105). In Gillham's (2000, 95) view, research report forms a narrative, where multiple sources of evidence related to each other are woven together along with researcher's interpretation of the data. Synthesis is reached by identifying and reporting meaningful findings through an ongoing review of accumulated information in order to identify recurring patterns, themes or categories (Hancock & Algozzine 2006, 61). Including quotes, references and visualizations from varied sources of data and using other literature techniques can create mental images that bring to life the complexity of the studied phenomena and give research report a richly descriptive nature (Hancock & Algozzine 2006, 16).

In this thesis, an in-depth empirical inquiry to a single case of workplace change project implementation was conducted using various service design methods and tools. The case study method was chosen as a research approach because of its flexibility and process-orientation

that are well-suited for studying a service design project. Furthermore, constructing a case study report allowed for giving examples for different stages of the process including when things go wrong, which can be particularly helpful when describing a design project, because design process itself is often neglected in favour of the finished solution (Gillham 2000, 90).

4.2   Methods of data collection, analysis and interpretation

A research design is a plan for getting from the initial set of research questions to a set of conclusions about these questions (Yin 2003, 20). According to Hannington (2003, 12) the key challenge in research design is in making an appropriate connection between objectives for the study, in the selection of methods that are used during the research process and in analysis of collected data. Stickdorn et al. (2018a, 83) conclude that choosing the right methods, tools and process for the service design project based on the people, culture and goals of the case organization are among the core skills of service design researcher.

Figure 9 displays the timeline of the development project together with service design methods and tools used in relation to the phases of the Double Diamond design process model. Most intensive part of the thesis project consisted of a six months period that actively involved case unit in various service design activities. Discover, define and develop phases are included in the study. Deliver phase was not included. Service design methods and tools along with method of data analysis used in the study are discussed and connected to the elements of the theoretical framework and research questions next.
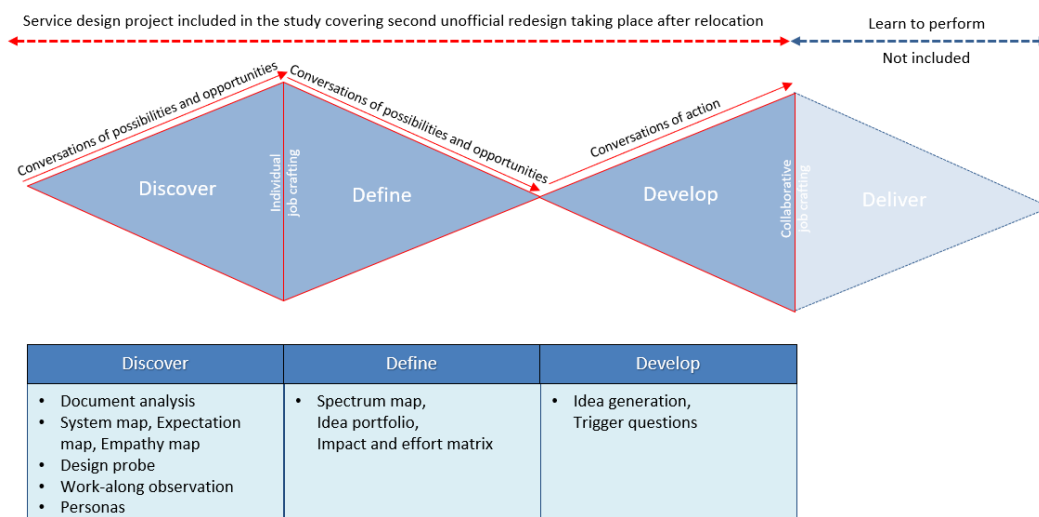
Figure 9: Service design methods and tool used in each phase of the study

Discover phase: Document analysis

Case study research often beings by reviewing existing documents from various sources to gather information related to the research topic and questions. Documentary information can take many different forms and it is relevant for almost every case study topic. (Yin 2003, 86)

Hancock and Algozzine (2006, 51-52) differentiate between four categories of documents used in case study research including material from the internet, private and public records, physical evidence and instruments created by the researcher. Gillham (2000, 37-38) further divides written documents to two basic forms. *Published documents* include previous research on the subject by other researchers and relevant government or other official publications that are freely available. *Unpublished documents* are generated by organizations for their internal use that researcher has been granted access for research purposes. Yin (2003, 87) name communication material, written reports of events, administrative documents, formal studies, and newspaper clippings as examples of written documents.

Hancock and Algozzine (2006, 51) suggest that when deciding what documents to include in the study to be analysed, researcher must ask *who* has the relevant information, *what* part of the document is needed, *where* is it, *when* was it prepared, and *how* can it be collected. They conclude that results of document analysis are usually summarized in narrative form or integrated into illustrative tables in the research report.

In this study, document analysis was used at the very beginning of the empirical part to study background information related to workplace change project of the case organization. Analysing documents related to planning and 1st formal redesign stage taking place before relocation allowed researcher to delve into information on events that took place before thesis project and provided understanding necessary for designing the case study research. Existing research reports regarding implementation of activity-based office concept was also studied. Insights and findings for previous studies are referenced at different points of the empirical study report to support data analysis and to connect the study to existing literature.

Discover phase: System map

System map is a general term for visualizations of systems from a specific perspective, situational context and scope (Stickdorn et al. 2018b, 46, 57). According to Polaine et al. (2013, 83), system maps can for example be used to illustrate various stakeholders that is anyone that can be significantly impacted by the designed solution, within the organization, to investigate relationships between stakeholders, and to reorganize how stakeholders work together.

Stickdorn et al. (2018b, 46) consider system mapping as a method that is well-suited for collecting insights early in the design process by utilizing know-how of various stakeholder groups in the organization. For example, representatives of different stakeholder groups can be invited to participate in a workshop, where a system map is collaboratively created. A map of internal stakeholder system created by combining system maps by various stakeholder groups can be used to analyse how groups are related to and impacted by each other (Stickdorn et al. 2011, 150-151). System maps can be made more informative by combining multiple mapping tools that create additional layers of data in a single workshop.

Expectation mapping is a diagnostic tool that can help in focusing analysis to key attention areas (Stickdorn et al. 2011, 176). For example, mapping tasks, demands and resources allows for identifying various needs that stakeholder groups have for performing their work efficiently (van del Heuvel et al. 2015, 518). Further categorized work for example in terms of frequency, urgency, and importance, and whether the task is done individually or collaboratively can be used to evaluate how resources should be allocated in an effort to design solutions for meeting various needs and demands (van Wingerden et al. 2016, 691-693).

Empathy mapping is a tool for discovering how stakeholder groups can support each other by engaging participants in considering needs and expectations of other groups (Gray et al. 2010, 65-66). Put together, maps can identify shared and opposed needs and expectations of various stakeholder groups (Tschimmel et al. 2017, 35).

In this study, system maps with layers of expectation and empathy mapping were created by members of the case unit in a collaborative workshop held during the week prior to relocation. Workshop engaged organization members to inquire underlying assumptions regarding nature of work performed in the case unit, facilitated conversations of relatedness and purpose and prepared organization members for their individual 2nd informal redesigns. In the workshop, stakeholder groups most important for enabling daily operations of member groups of the case unit were identified. Then, layers were added examining perceived needs and expectations that stakeholder groups had for each other. Data was analysed to understand current operations and underlying work culture of the case unit.

Discover phase: Design probe
Design probe is a participative and visual qualitative research method, where participants are provided with a collection of assignments that engage them into self-reporting their experiences and to collect thought and ideas related to research topic (Mattelmäki 2006, 39). Goal of the method is to transform people into active and curious enquirers of their everyday lives rather than consider them as passive research participants (Crabtree et al. 2003, 8).

Hemmings et al. (2002, 2-3) argue that by drawing from methodologies of both design and ethnography allows for design probes to be both inspirational and informational. Assignments can impact participants' behaviour by providing them with opportunities to discover new perceptions of their environment (Gaver et al. 1999, 25). At the same time, design probe focuses on collecting data from participants' personal context and perceptions by drawing their attention to cultural environment, needs, feelings, values and attitudes (Mattelmäki 2006, 40).

Design probe provides a highly contextual and flexible research method that can be designer for a specific group of participants and for their environment (Gaver et al. 1999, 29). Gaffney (2006) describes constructing probe assignments as a search for finding a balance between eliciting the types of information researcher want's while making sure not to restrict explora-

tion of participants themselves. Assignments can be made inspiring by purposely seeking to embrace personality of both researcher constructing the probe and people participating in the study (Gavel et al. 2004, 55). Lucero and Mattelmäki (2007, 173) conclude that being involved in a probe study can be perceived as valuable, if participants feel they also learned something new themselves.

In this study, a design probe kit was created soon after relocation. Assignments were designed to support organization members in translating features of the 1st formal redesign into their individual 2nd informal redesigns. Instructions and assignments included job crafting tools and strategies encouraging active exploration of resources and opportunities present in the activity-based office environment. While completing the assignments, participants self-recorded data regarding their behaviour and experiences in the new environment. Data was analysed to understand how and why members of the case unit utilized activity-based office.

Discover phase: Work-along observation

Participatory observation is a qualitative research method, where researcher is active in the study setting, keeping their ears and eyes open to notice things that might normally be overlooked (Gillham 2000, 21). Presence of the researcher in the same context as participants as events happen is a core feature of participative observation, because it allows for not relying only on participants retrospections about what happened. (Woodside 2010, 321)

Work-along is a type of participatory observation, where researcher learns though a direct working relationship with participants and performing work activities with them (Wadel 2015, 85). Stickdorn et al. (2018b, 19) considers work-along observation as well-suited for uncovering routines, behaviours and unofficial networks, and understanding internal processes and culture of the organization. Observed behaviour can include identifying workarounds as novel ways that organization members find to avoid roadblocks in their environment, such as policies, procedures or other organization members that they perceive as constraining them from getting things done (Halbesleben 2011, 71-72).

In this study, work-along observation by the researcher was used in conjunction with design probe as a complementary method for collecting data on initial use of activity-based office by members of the case unit. Observation was beneficial in deepening understanding and confirming insights gathered with self-recorded probe assignments. Including observation among methods used was supported by the fact that the researcher was working in the case unit during the study as one of its members. Researcher was better able to acknowledge his role as both a researcher and as an organization member and take structured measures to remove biases that might impact conclusions of the data analysis.

Discover phase: Personas

Creating personas is a tool for data visualization, synthesis and analysis, where fictional ar-

chetype profiles are constructed as a representation of specific groups, such as a subset of customers or employees (Stickdorn et al. 2018b, 51). Personas provide a way to merge insights gathered in earlier research and share with people taking part in the design process (Moritz 2005, 220). Working with personas supports an empathic design approach by focusing on finding a balance between proposed solutions and contradicting needs and expectations (Goodwin 2009, 232). A set of persona cards can for example be used in a collaborative workshop to help participants relate to and align their thinking around different or even opposing needs of the people impacted by the designed solutions (Stickdorn et al. 2018b, 41, 46).

Personas should be constructed around significant criteria revealing a key underlying theme relevant to the design project that differentiate groups from each other. At the same time, aim is to create authentic and realistic depictions that give personas their emphatic qualities. It can also be helpful to visualize how personas relate to one another in key areas by placing them in a simple matrix or portfolio. (Stickdorn et al. 2018b, 52)

Number of personas constructed depends on research data and varies by project (Goodwin 2009, 239). Goodwin (2009, 232) names typical features of a persona card a description that includes name, photo, goals, frustrations, attitudes, typical tasks and other factors critical to understanding behavioural patterns. Adding storytelling elements can further differentiate personas for a simple list of findings (Goodwin 2009, 229).

In this study, a set of persona cards were created as a result of synthesis and analysis of data collected with design probe assignments and work-along observation. Persona cards visualized distinct types of 2nd informal redesigns among members of the case unit after relocation. Purpose was to emphatically convey various ways and reasons for utilizing activity-based office in relation to underlying principles of its intended use. Persona cards were presented in a collaborative workshop where organization members unit evaluated validity of the activity-based office concept and identified needs for adjustment going forward.

Define phase: Spectrum map

Spectrum mapping is a tool for identifying and visually organizing diversity of perspectives, opinions and their relative positions around a design issue (Gray et al. 2010, 127). According to Rill and Hämäläinen (2018, 238), it reveals different lenses that are used to look at the data by participants. Spectrum mapping can be used for example in a collaborative workshop together with persona cards to provide a starting point for a discussion on development needs related to the design challenge.

Gray et al. (2010, 127) argues that spectrum mapping can bring up information playing role in attitudes and behaviours that may otherwise remain invisible by asking participants to generate a point-of-view preference option and writing it down adding to the data. After constructing a spectrum map together with other participants, people are more likely to gain a holistic

view of where they stand in relation to other perspectives (Rill & Hämäläinen 2018, 238). Gray et al. (2010, 127) concludes that this exercise may allow participants to consider if their thinking skews too far to one side of if they are taking a reasonable approach.

Open discussions can be continued by collaborative evaluating different developmental possibilities within the range of perspectives. A set of methods and tools can be used to help co-decide between various options while making the most of accumulated knowledge and empathy (Stickdorn et al. 2018a, 162). A common idea behind such methods and tools is to support weighing and prioritizing options against relevant criteria (Gray et al. 2010, 67).

Idea portfolio is an analytical and visual ranking method for sorting options by using a two-dimensional ranking system. Two variables are used to balance key considerations and add a strategic element to decision making. Discussing and ranking options one by one and placing them into the portfolio forms a visual ranking system. (Stickdorn et al. 2018b, 107-108)

Impact and effort matrix provide another tool for supporting participants to balance various options before committing to them. Options are mapped based on two factors of effort required to implement and potential impact. Some options require a lot of resources but may have a bigger long-term benefit than a short-term option. This helps participants to balance and evaluate options before committing to them (Gray et al. 2010, 241)

In this study, spectrum maps along with idea portfolio and impact and effort matrix were created by members of the case unit in collaborative workshops. Workshops engaged organization members to enquire values and norms underlying use of activity-based office as portrayed by the set of persona cards and other insight from previous research. Workshop facilitated conversations of opportunities and possibilities by allowing for expressing views on what works and what does not in effort to evaluate validity of activity-based office concept in preparation for potential adjustments. Data was analyzed to identify shared values and norms, viewpoints on desirable behavior going forward and paths of development.

Develop phase: Idea generation
Idea generation is a critical part of the collaborative innovation process, where participants share and build on each other's ideas to create novel and useful combinations for solving the development challenge (Kohn et al. 2011, 560). Stickdorn et al. (2018a, 157) argue that while there are times in the service design process where ideas are deliberately generated, this only represent one point in the evolutionary process of problem solving. They conclude that ideation process never stops, but idea generation can concretize aspects of what has been learned so far and spark ideas for what is to come.

Idea generation typically takes place in a co-creative workshop, where ideation methods and tools are used to give structure and to stimulate group discussions (Stickdorn et al. 2011,

180). Paulus et al. (2018, 3) considers creating a safe environment for sharing ideas without fear or negative feedback, encouraging the exchange of large number of ideas, and encouraging presenting ideas in an efficient manner as key factors for a successful idea generation workshop. Stickdorn et al. (2018a, 158) concludes that group ideation is an effective way to develop shared ownership of ideas, because solutions are based on a collaborative effort.

Developing trigger questions is a systematic method for turning insights from earlier research data into actionable challenges in preparation for an idea generation workshop (Stickdorn et al. 2018b, 83). Trigger questions provide a starting point for idea generation by framing the challenge in a way that helps participants to focus while not being too broad or restrictive (Tschimmel et al. 2017, 49). Trigger questions can be further divided into opportunity areas to generate ideas for different types of solutions for the development challenge (Stickdorn et al. 2018b, 84-85). For example, framing insights into "how might we?" questions suggest that a solution can be found while not suggesting any specific solution, encouraging generation of many different possible solutions (IDEO 2015, 85).

In this study, ideas were generated based on trigger questions by members of the case unit in a co-creative workshop. Worksop prepared organization members for the upcoming stage of learning to perform together, facilitated conversations of action and provided tools for collaborative job crafting. In the workshop, organization members ideated how operations could be developed following paths identified in previous workshops. Data was analysed and synthesized to create concepts to be implemented by the case unit in support of continuous learning and adaptation towards desired work culture and work transformation.

Facilitated workshops and tasks and roles of the facilitator
A facilitated workshop is a method enabling a group of people to work together to archive a specific outcome. A workshop facilitator is someone who helps a group of people to achieve an agreed aim by involving everyone present. (Cameron 2005, 1-3) Main tasks of the facilitator include planning and running the workshop. According to Cameron (2005, 24-26), planning for a facilitated workshop includes defining a clear purpose on what needs to be accomplished, who should be invited, and preparing a broad structure for the event. There are also many logistical issues involved in preparing for a facilitated workshop, such as arranging time and date, securing a suitable location and compiling materials (Wilkinson 2004, 53).

Running a workshop requires facilitator to assume several roles. As a host, facilitator is responsible for welcoming everyone, introducing the agenda and making sure everyone is comfortable to ensure a smooth running of the workshop (Cameron 2005, 52). Kaner et al. (2014, 32) defines role of a facilitator in a collaborative workshop as supporting everyone to do their best thinking by encouraging full participation and promoting mutual understanding towards inclusive solutions and shared responsibility. Stickdorn et al. (2018a, 392, 408-410) expand

that in co-creative workshops containing creative and explorative elements, facilitator may need to challenge participants by using a wider set of techniques such as timing, space, tools and props and visualizations to control energy and flow of the workshop.

Workshops can be facilitated either by internal or external facilitators. Both Kaner et al. (2014, xxvii) and Stickdorn et al. (2018a, 393) emphasize importance of facilitator's neutrality as someone who is responsible for managing progress of the workshop but not getting involved in the content creation process. Stickdorn et al. (2018a, 393) consider an external facilitator having an advantage of more easily concentrating on running the workshop. In contrast, a colleague working as a facilitator may have difficulties in remaining neutral during the workshop if they are personally connected to the theme. Internal facilitators also have an existing role in the organization that may limit their access to full range of facilitation roles and techniques that an external facilitator can adopt. Wardale (2013, 124) points to some advantages that an internal facilitator can have. Internal facilitators can be familiar with the organization, its people, and issues they are facing, making it easier to build trust with participants of the workshop. They are also more likely to stay with the organization in the long-term and are more likely to assist with implementation of results created in the workshop.

In this study, many service design methods and tools were used in facilitated workshop. Researcher facilitated all workshops in the study. Researcher can be considered as an internal facilitator, and as a change agent, because he is an employee of the organization and a colleague for members of the case unit. Researcher acknowledged possible biases introduced by his position and strived to maintain neutrality by focusing on helping participants with using methods and tools, controlling timing and maintaining engaging atmosphere.

Data analysis and interpretation: Coding for themes

Data analysis consists of using different methods and tools for recombining qualitative and quantitative case study evidence (Yin 2003, 109). Bernard (2006, 452) defines data analysis as the search for patterns in data and looking for ideas that help to explain why those patterns exist in the first place. Hancock and Algozzine (2006, 56) underline the importance of the researcher interacting with the data thorough the study process. Accordingly, Gerring (2007, 84) refers to case study as an iterative task of causal investigation. In this process, data analysis provides a structured way for addressing the initial research questions (Yin 2003, 109).

Coding for themes is a widely used method for data processing and analysis in case studies for finding patterns in data, interpreting those patterns and linking findings to other research (Bernard 2006, 453; Campbell 2015, 203). Saldaña (2009, 3) defines a code in qualitative analysis as a word or short phrase that assigns an essence-capturing attribute for a language-based or visual data. A theme is an outcome of coding, categorization, and analytic reflection by the researcher (Saldaña 2009, 13). In case study reports, codes are commonly presented as

themes and used by the researcher to convey the story of how they see themes relating to each other (Bernard 2006, 451).

Sleeswijk Visser el al. (2005, 134) suggest a three-phase process for generative data analysis resulting with a coding-system. First, the researcher fixates on the raw data including their own observations to capture first insights. Then, data is searched again looking for interesting indicators. Finally, patterns are found by arranging and rearranging data to create a completed overview. Saldaña 2009 (2009, 51) refers to "first cycle" and "second cycle" coding methods. In the first cycle, methods can be "mixed and matched" to meet needs of various types of data and split the data into individually coded segments. In the second cycle, methods for pattern coding are used to compare, reorganize or focus codes into prioritized categories and finally synthesized to formulate central categories (Saldaña 2009, 42).

In this study, coding for themes was the primary method for analysing and interpreting data collected during the design process. Detailed descriptions of data analysis and results are provided in the following chapters. Table 2 summarizes different data collection methods and tools discussed and connects them to research questions introduced in Chapter 1.2.

Phase	Method	Purpose	Research question
Discover	Document analysis	Understanding objectives set for the workplace change project. Define approach and scope for implementation project.	When does workplace change have transformative potential? (RQ1)
Discover	System mapping	Understanding needs and expectations of the case unit. Define fundamental assumption on nature of work.	How to build organizational capabilities towards work transformation? (RQ3)
Discover	Design probe	Support organization members in exploring opportunities of the new environment. Understanding initial mobility patterns.	How to support bottom-up approach to implementation of workplace change? (RQ2)
Discover	Work-along observation	Supplementary data source for understanding initial mobility patterns.	How to support bottom-up approach to implementation of workplace change? (RQ2)
Discover	Personas	Visualizing insights from design probe and work-along observation.	How to support bottom-up approach to implementation of workplace change? (RQ2)
Define	Spectrum mapping	Support organization members in evaluating validity of activity-based office concept. Define values and norms dictating mobility.	How to build organizational capabilities towards work transformation? (RQ3)
Develop	Ideation	Ideate solutions enabling continuous learning and adaptation based on what has been learned so far.	How to build organizational capabilities towards work transformation? (RQ3)

Table 2: Data collection methods and tools and their connection to research questions

5   Empirical case study and findings

This chapter describes the empirical research and analysis process of the development challenge as a case study. The development challenge was supported by the theoretical framework and service design methods and tools discussed earlier. The empirical part of the study followed the Double Diamond design model (Design Council, 2007). Thesis work covered discover, define and develop phases of the model. The deliver phase was not included.

Purpose of the development project of the thesis work was to combine service design methods and tools with organizational change theories to guide the implementation of activity-based office concept after relocating from a traditional office and steer cultural development towards work transformation. Case organization consisted of one unit in a decision-making agency in Finnish government where the researcher also worked in during the case study.

The structure and timeline of the design process is presented in Figure 10. Design activities were performed during a six months period between May and November 2018 with members of the case unit. The researcher conducted a literature review beginning in spring 2018 in preparation for the development project. He continued to write the case study report after summary of results was presented to the case unit in November 2018.
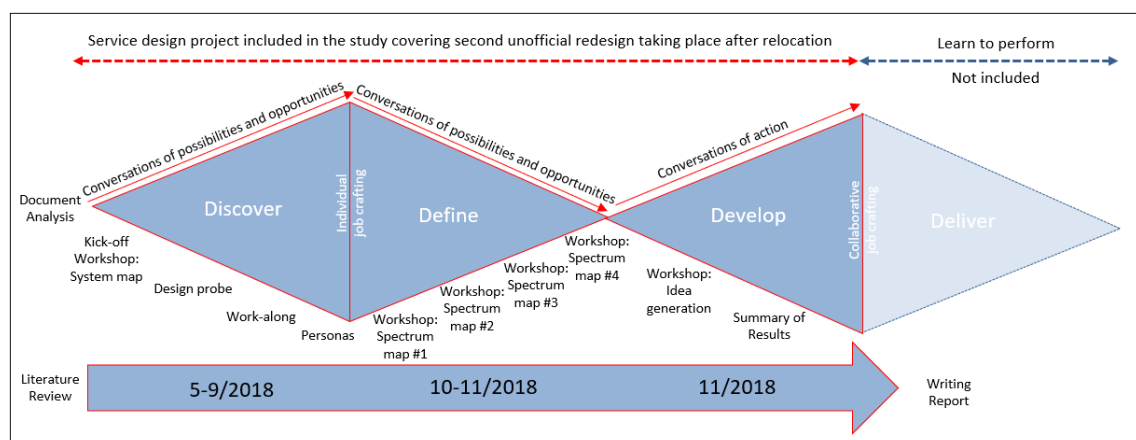
Figure 10: Timeline of the thesis project following the Double Diamond design model

Service design methods and tools used in the study were chosen in accordance to underlying organizational change theories and objectives of the development challenge. Design activities were used to simultaneously move the change process along and collect data for the case study research. Table 3 displays data sources, activities and methods of data collection used in the study. In brief, the Discover phase aimed at preparing organization members for the upcoming relocation, provide them with tools to get accustomed to activity-based office and understand both cultural and practical aspects underlying initial use of the new environment. the Define phase aimed at providing opportunity for organization members to evaluate validi-

ty of activity-based office concept and identify paths of development. The Develop phase aimed at ideating concepts that could be implemented by the case unit to enable continuous adaptation and learning towards work transformation. The design process and results are discussed in more detail in the following chapters.

Phase	Data source	Activity for collecting data	Method of data collection
Discover	Document analysis	2 public and 2 private documents	Content analysis
Discover	System mapping	1 workshop for 2 hours	Canvases
Discover	Design probe	Assignments for up to 2,5 months	Self-recording
Discover	Work-along observation	Observation for 2,5 months	Notes
Define	Spectrum mapping	4 workshops for 1,5 hours each	Canvases
Develop	Ideation	1 workshop for 2 hours	Canvases

Table 3: Data sources, activities and methods of data collection used in the study

5.1 Confirming transformative potential and scope of development project

Empirical part of the study begun by analysing documents related to planning and 1st formal redesign stages prior to relocation. Goal of the analysis was to study background information of the workplace change project to support construction of the case study research for the case unit. First, documents related to planning of the project were analysed to determine how and what objectives were set for the project. Then, documents were analysed to determine how objectives were translated into 1st formal redesign and communicated to organization. Transformative potential of the workplace change project was evaluated to confirm that service design approach to organizational change was aligned with objectives set for the workplace change project.

Total of four public and private documents were chosen for the analysis. Government Premises Strategy was reviewed to understand state level vision and objectives that initiated the workplace change project in the first place. Project plan for Ministry was chosen to convey how government policy was translated to context of the case organization. Document related to informational event was included to see how objectives for workplace change were communicated to members of the organization. Finally, a document related to a series of preliminary events held in preparation for upcoming relocation was analysed to understand how objectives for workplace change were translated to level of individual organization members. Table 4 summarizes documents with information on authors, publicity and time of publishing.

Document	Author	Publicity	Published
Government Premises Strategy	Ministry of Finance	Public	December 2014
Project plan for Ministry	Ministerial Adviser	Public	April 2017
Informational event for organization members	Senate Properties	Private	June 2017
Preliminary event for organization members	Senate Properties	Private	December 2017

Table 4: Documents analysed in the study

State Premises Strategy

In December 2014 Ministry of Finance published Government Premises Strategy in form of a resolution (Ministry of Finance, 2014) that updated previous strategy issued in 2005. Resolution outlining state premises strategy was based on working group memorandum published in January 2015 (Ministry of Finance, 2015). In the memorandum it is stated that many factors related to working methods, tools and environment impacting development needs of central government premises have changed, making renewal of the strategy topical. It is concluded that the strategy entering into force under the resolution is intended as a tool for developing the use of state working environments and their appropriate standardization.

Rasila et al. (2014, 267-269) indicate four drivers underlying thinking behind the strategy:

- Providing a way to push agencies into making real estate cost savings
- Issuing a state-wide office concept saves costs in planning and development
- Bringing New Ways of Working into government workplaces
- Creating more sustainable work environments

They conclude the overall problem so far has been that individual agencies are reluctant to make these changes voluntarily. A government resolution is therefore used to steer agencies towards desired objectives aligned with State Premises Strategy. (Rasila et al. 2014, 268-269)

Table 5 displays and organizes contents State Premises Strategy in a visual form. The strategy shares thinking related to New Ways of Working and activity-based office concept discussed in Chapter 2. In the resolution an overall goal for the state premises strategy is outlined with four sub-categories comprising total of twelve objectives. Objectives span across meso, macro and micro levels (Vos and van der Voordt 2001, 51) conveying transformative potential. However, it can be argued that the underlying tone of the strategy remains focused on the overall goal of "supporting profitable activity". Organizations implementing the strategy in their individual relocation projects should therefore be mindful in properly communicating the win-win nature of necessary changes for both organization and its members.

Goal of the State Premises Strategy is 1) to support profitable activity			
New working environments	Improving space utilization	Overall interests of central government and the length of lease agreements	Social responsibility
2) able to support New Ways of Working	5) space utilisation rate is monitored with a set maximum of 18 m^2 per employee for cost and energy savings	7) state-owned premises are preferred when relocating	10) agencies are located outside of expensive central city zones along good public transportation
3) able to flexibly adapt and be responsive to changes in work		8) joint use of premises between state organizations is encouraged	11) premises must be healthy and safe and maintained in a socially responsible manner
4) able to support activities cost-effectively	6) up-to-date information on future needs is utilized in planning	9) lease agreements are kept short and flexible	12) premises must be energy efficient

Table 5: Objectives of the State Premises Strategy

Planning of relocation project for the case organization

In spring 2015 the case organization begun planning for a workplace change project to relocate its headquarters in accordance to Government Premises Strategy in collaboration with Senate Properties, a government-owned enterprise that acts as the government's expert on work environment and work premises (Rasila et al. 2014, 267). Project plan for ministry representing administrative branch in charge of case organization was submitted in April 2017. Purpose of the document was to support decision-making of the ministry whose approval was needed to continue with the project. In the project plan, drafted by a Ministerial Adviser based on preparation by Senate Properties, a suitable location was introduced for new premises of the case organization. Focus of the document was in justifying the workplace change project by rationally reasoning its merits related to budgetary considerations of the ministry.

The project plan is cited next with references to objectives aligned with the State Premises Strategy. It is stated that project plan proposes a suitable solution for agency's current and future needs for space (#6) by relocating outside of city centre but next to a public transportation hub (#10), into a state-owned premise (#7) that can be converted into activity-based office (#2, #3), improving space utilization (#5), and overall size of premises can be downsized leading to savings in property costs (#4). Conference spaces can be shared with other state organizations located in the building (#8). Size of premises within the office building can also be flexibly increased or decreased according to space needs in the future (#9).

It is also demonstrated in the project plan how current location is not aligned with the new state premises strategy in several goals and principles, increasing need for undergoing workplace change project to improve the situation. Current premises are leased from a third-party owned (#7) and the layout of mostly consists of individual rooms (#2, #3) with under-utilized conference spaces (#8) resulting with poor overall space utilization (#5). Furthermore, it is

envisioned that future need of space is decreasing due to number of personnel declining (#4). In summary, the project plan is aligned with the overall goal of the state premises strategy for supporting profitable activity. Focus of the project plan was improving current situation towards goals of the strategy. Project plan was subsequently approved by the ministry.

A couple of months after decision to relocate was finalized an informational event was held for the personnel of the agency in June 2017 by consultants of Senate Properties. Goals of the project plan were translated into a set of objectives for workplace change project as follows. Objective is to design a pleasant work environment (#11) by implementing activity-based office concept featuring different zones supporting everyday work of the agency (#2). New Ways of Working are developed for more efficient operations (#2). Design process utilizes existing information on earlier similar projects and supports other ongoing development initiatives in the agency (#6). Furthermore, it was stated that objective is for everyone to learn to use activity-based office flexibly in their work. Finally, the new environment and its usage will be monitored after relocation to ensure that it functions in a desirable way.

Objectives cited in the documents were combined and analysed in order to determine transformative potential of the workplace change project. Figure 11 visualizes objectives and their relative emphasis between societal (macro), organizational (meso) and organization member (micro) levels (Vos & van der Voordt 2001, 51). Some of the objectives can be considered as complimentary for more than one level and are placed in-between levels accordingly.
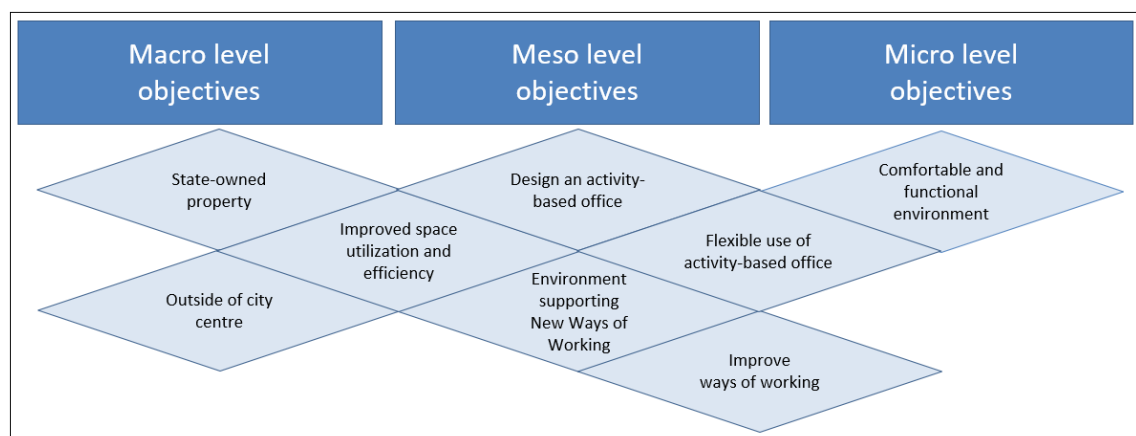
Figure 11: Objectives for workplace change project of the case organization

Figure 11 suggests that macro level objectives, targeted at cost savings and efficiency benefits, are prominent in the workplace change project by placing strict restraints on both location and features of the new premises. Meso level objectives are focused in implementing New Ways of Working and activity-based office with only one objective clearly targeted at benefiting well-being of individual employees. On the other hand, multiple objectives can be

considered as benefiting both organization and its members in a complimentary way. It can be concluded that workplace change project offers a wider-ranging and balanced set of objectives for a conceivably win-win solution for organization and its members.

The 1ˢᵗ formal redesign

In summer and autumn 2017 project plan was translated into 1ˢᵗ formal redesign by a team of professionals together with in-house steering group in a coordinated effort managed by Senate Properties. Physical layout of new premises was designed according to standardized features of activity-based office concept and customized for functional needs of various units of the organization. The 1ˢᵗ formal redesign aims to guide implementation effort and can be considered as a blueprint or a prototype of what the organization would ideally look like after relocation and organization change is complete (van Aken 2007, 74).

A document related to series of preliminary events for organization members held in December of 2017—February of 2018 was analysed. Events were organised and hosted by consultants of Senate Properties. Goal was to communicate progress and contents of the 1ˢᵗ formal redesign, to involve organization members in some aspects of the design process, and to prepare them for the upcoming relocation. Focus of events was in introducing New Ways of Working and activity-based office concept in detail. This included linking relocation to changing nature modern knowledge work and objectives of the State Premises Strategy and familiarizing participants with different workspaces and their intended use. Furthermore, it was discussed how relocation impacts personal ways of working of individual organization members and what is required of them to ensure a successful transition. Following objectives were provided as guidelines for appropriate behaviour in the new environment:

- Flexible use of the new office environment
- Choosing workstation based on conscious choice
- Following office rules
- Getting accustomed to a more digital way of handling documents
- Improving planning and time management
- Providing accurate location data for others
- Increasing use of digital communication channels

Objectives are aligned with general features activity-based office concept discussed in Chapter 2.4. and can be considered as so-called best business practices for new organizational arrangements (Kingma 2018, 1). According to Junginger and Sangiorgi (2009, 4344), outlining general objectives focusing on outer layers of the organizational culture consisting of physical artefacts and behaviours is typical for organizational change projects that begin at the periphery of the organization. This also provides an opportunity to use design as an inquiry to deeper layers of organizational culture and instil transformative meaning to relocation.

Defining approach and scope of thesis project

Analysing documents provided an overview of planning and 1st formal redesign stages of the workplace change project before relocation. These initial stages of planned change process can be described as a predominantly top-down and expert led effort (van Aken 2007, 74-75). Objectives of workplace change project originated from State Premises Strategy, were translated to organizational level, and finally to level of individual organization members in preparation for upcoming relocation.

It can be concluded that objectives set for workplace change have transformative potential. However, it must be stressed that much of this potential in contingent to a successful implementation after relocation. While many of the objectives related to societal and organizational levels (for example state-owned property outside city centre and improving efficiency of space utilization) can be archived by physical relocation alone, transformative changes required for a genuinely win-win outcome for both organization and its members can only be archived by aligning physical environment and work culture in a coordinated effort.

Document analysis confirmed choice of service design approach to organizational change (framework discussed in Chapter 3.6) for implementing workplace change after relocation. Furthermore, limiting scope of thesis to one of the units of the case organization can be considered as appropriate for enabling design inquiry to deeper levels of organizational culture. Progress of the development project planned and organized by the author of this thesis is discussed in next chapters.

5.2 Discovering needs and expectations

Development project was kicked off on 9th May 2018, less than one week prior to relocation, with a workshop for members of the case unit. At that time, the process of physical move was ongoing with paper files and other items being transported to the new location and work at old premises was being gradually shut down. Case unit held an off-site training day at a conference centre to take advantage of the otherwise unproductive time period in-between locations. All members of the case unit took part to training day with around 60 people attending.

Workshop was the first activity of the day and lasted for two hours with an introduction that lasted for around fifteen minutes. Researcher begun by introducing background of the thesis work and by providing an overview of the upcoming project. Researcher positioned himself primarily as a design student but also as an internal facilitator. He stated that he wanted to use thesis work as an opportunity to benefit the case unit where he also worked.

Workshop aimed at using service design as an inquiry to organization culture. Goal was to use service design methods and tools to engage organization members in conversations of relat-

edness and purpose (Ford & Ford 1995, 546; Lin et al. 2011, 78) revealing fundamental assumption as a long-standing and taken-for-granted belief of work (Rousseau 1995, 48) they held regarding nature of work performed in the unit, and to show how it frames their current situation (Junginger & Sangiorgi 2009, 4344). Purpose was to prepare organization members for the upcoming change by supporting them in finding shared reasons for why and how they should adjust their behaviour during the stage of 2nd informal redesigns (van Aken 75-77) after relocation in accordance to the objectives set for the workplace change.

After introduction participants were instructed to form groups with those people sharing similar job tasks. According to Wilkinson (2004, 57) in a creative workshop it is important to have group sizes small enough to reach decisions, but large enough that all affected areas are represented. Following this advice, participants were asked to form groups of 4-5 people based on job categories prepared by the researcher in advance. This provided an opportunity for people with similar tasks to collaborate and discuss with each other sharing their knowledge and experience. Total of 13 groups were formed with two groups representing supporting positions, eight groups professional positions and three groups managerial positions. Figure 12 portrays setting of the workshop with groups gathered around round tables.

Figure 12: Everyone in the case unit was invited to the workshop

Workshop was divided into three steps based on service design tools of system mapping, expectation mapping and empathy mapping with twenty minutes of time allocated for each step. Each step of the workshop had a specific focus and aim of generating conversations, moving the process along and collecting data for the development project. Canvases with two circles drawn in them representing inner- and outer circles were used to collect data and to provide a visual aid for participants. Step by step instructions can be found in Appendix 1. Workshop included one short break after the first step.

In the first step, a separate system map was created by each group. They were asked to place their job title at the centre of the canvas to indicate viewpoint of the map. Groups were then instructed to discuss and use sticky notes to write out stakeholders located anywhere in the organization they identified as significant for completing their tasks. Finally, groups were asked to place sticky note in the inner and outer circles of the canvas based on relative strength and importance of their ties to these groups for getting things done efficiently.

In the second step, layer of expectation mapping was added to canvases. Groups were instructed to consider demands of their work and resources they required from others to performing their tasks efficiently. They were then asked to write down expectations rising from these needs for stakeholder groups placed on the canvas.

In the final step, layer of empathy mapping was added to canvases. Groups were instructed to switch their viewpoint around and to consider and write down expectations they anticipate stakeholder groups on the canvas had for them for completing their tasks efficiently. This could mean for example reciprocity or taking measures for frictionless interaction.

Results of the workshop

Canvases created during the workshop were photographed and stored by the researcher. A digital spreadsheet was created where contents of each canvas was transcribed. Goal of the analysis was to form an understanding of nature of work in the case unit. Analysis was guided by the notion that amount and importance of individual and collaborative work, ways of working and work cultures vary between organizations (Harrison et al. 2004, 31). Researcher first analysed maps to form an understanding of stakeholder groups and their relative importance identified by groups. Researcher then analysed transcribed data using coding for themes method discussed in Chapter 4.2 to find interesting indicators and patterns between groups. Figure 13 visualized two phases of data analysis process.
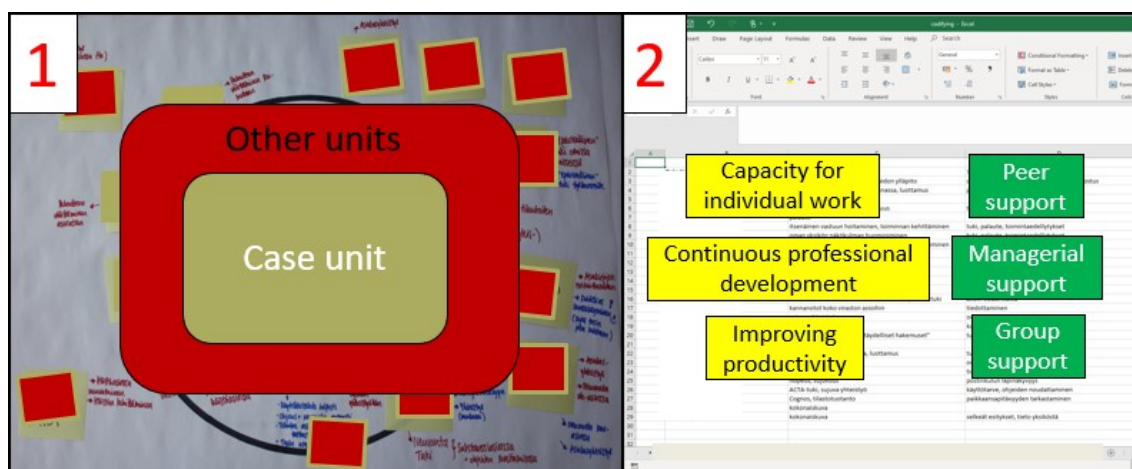
Figure 13: Data analysis was divided into two phases and resulted with several themes

Internal network of the case unit and need for "home base"

One of the major design decisions reached during 1st formal redesign was to assign each unit with a designated "home base". This meant that premises comprised of multiple "home bases" each of which contained a complete set of different workspaces. Workstations in different areas could be freely utilized by any member of the organization, but certain areas such as storage rooms could only be accessed by members of that particular "home base". This solution mirrored current-state situation in the traditional office setting, where units were differentiated and siloed based on their individual responsibilities and expertise as parts of the overall decision-making organization. This decision suggests that collaboration is expected to primarily take place within units rather than between members of different units.

Analysis of data generated during the first step of the workshop, stakeholder mapping, validated this assumption. Total of 27 stakeholder groups were identified between groups. Out of these, one third resided in the case unit and two thirds in other units of the organization. Despite majority of stakeholders residing in other units, a shared factor between all groups was to assign strong ties only with those groups residing within the case unit. Figure 14 visualized how this formed an "inner circle" (red sticky notes) comprised of groups in the case unit near centre of the canvas and an "outer circle" (yellow sticky notes) comprised of weak ties with groups in other units at the edges of the canvas. Overall, ratings of various stakeholder groups formed a stakeholder map of the case unit as a tightly networked group of stakeholders with well-defined responsibilities and links to other groups.
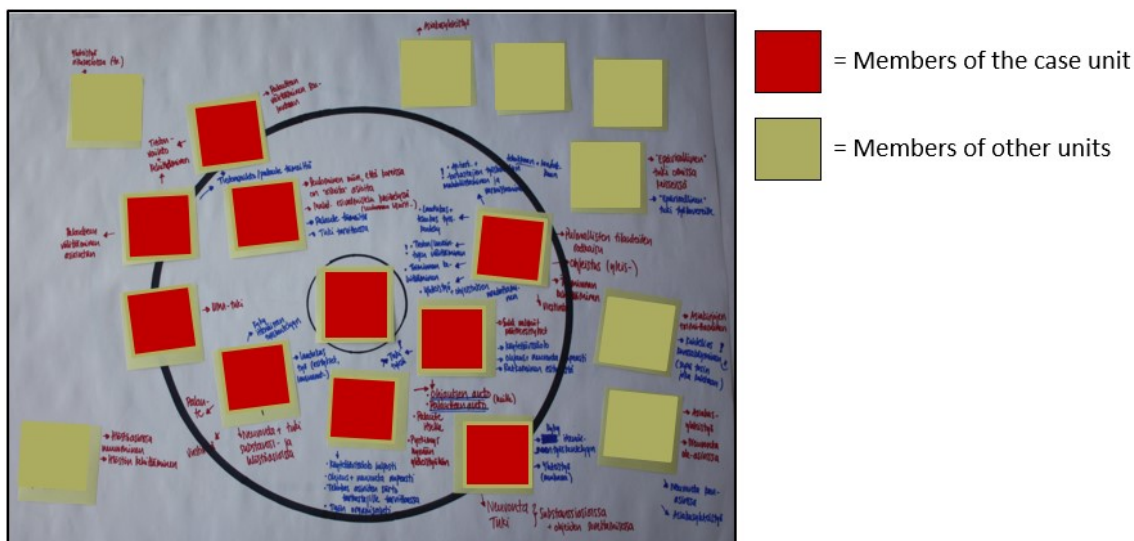
Figure 14: An example of a completed stakeholder map

Division between stakeholder groups in the case unit in other parts of the organization was also reflected in amount and nature of needs and expectations identified. "Inner circle" was perceived as important enablers of day-to-day operations, whereas "outer circle" was needed only some of the time. Connections inside the case unit formed long-term and ongoing rela-

tionships while connections with groups in other units appeared predominantly as transactional and something that could be accessed on a demand basis.

Expectations and needs within members of the case unit

Analysis of data collected during second and third steps of the workshop, layers of expectation and empathy mapping, focused on further examining strong "inner-circle" connections between stakeholder groups of the case unit. During analysis themes were identified that can be considered as some of the primary job demands and job resources that may be altered as a result of relocation to activity-based office. Themes categorized as three expectations and three needs are discussed next. Then, an underlying fundamental assumption framing work culture of the case unit is discussed. Results of the design inquiry are connected to research on aspects of modern knowledge work and insights from document analysis to form a conclusion on how to manage expectations towards a shared vision of where change could be taking members of the case unit and why.

Expectations for personal ways of working and productivity

An interesting indicator regarding expectations was identified by focusing on connections between groups representing managerial positions and organization members in all other groups. There was a strong alignment, or even a mutual understanding, between expectations expressed by those in managerial positions and perceived expectations by others. Three interconnected themes were formed reflecting some of the key components of knowledge work performance. Personal ways of working were identified as performance drivers with expected results and outcomes related to productivity (Palvalin et al. 2015, 458). Expectations reflected work culture built on fundamental assumption of nature of work as predominantly individual effort despite strong ties identified between groups within the case unit.

1) Capacity for individual work

Capacity for individual work was identified as the most prominent theme. Demands related to this theme are connected to core assumption of modern knowledge work as non-routine problem solving (Aaltonen et al. 2012, 3) including for example:

independent, responsible, patient, precise, organized,
thorough groundwork, taking initiative, being insightful

Expectation rising from this assumption portrayed a picture of an ideal organization member as someone able to perform independent concentrated work for extended periods of time. Work in a decision-making organization was characterized as requiring advanced analytical skills, ability to formulate well-reasoned conclusions and turn them into written reports.

2) Continuous professional development

Continuous professional development was identified as a supporting theme for building capac-

ity for individual work. Demands related to this theme are connected to view of modern know-ledge work requiring advanced ways of managing knowledge (Stenfors et al. 2006, 930), information seeking and utilization (Aaltonen et al. 2012, 7) and creating knowledge (Lotze 2004, 11) including for example:

proactive, followings instructions, competent, continuous learning
assimilating knowledge, staying up to date on policy

Expectation for organization members to continuously maintain and develop their professional skills was related to substantive knowledge necessary for effective decision-making. Advancement towards an ideal organization member was regarded as following a path of gradually expanding areas of expertise towards increasingly independent way of working.

3) Improving productivity

Improving productivity was identified as a theme providing measurement for ideal organization membership. Demands related to this theme are connected to view of modern knowledge workers as the professionals with know-how and know-why translating into competence of the organization (Harrison et al. 2004, 145) including for example:

prioritization, efficiency, productivity, high quality, work ethic

Expectations for improving results of work productivity came about in measuring quantity and assessing quantity of output related to performance targets set on an individual level. These appraisals presented "yardsticks" for how far along organization members were on their journey towards independent way of working through continuous professional development.

Need for formal and informal support

Analysis of data revealed needs that organization members had for others in order to meet expectations discussed in the previous section. These needs contained three types resources of formal and informal support systems underlying formation of "inner circle" and strong ties between groups of the case unit. Colleagues and managers together formed a support network that enabled continuous professional development despite fundamental assumption of nature of work and measures of productivity valued knowledge workers as individuals.

1) Peer support

Peer support was identified as the most important versatile type of informal support. Mead et al. (2001, 135-165) defines peer support as a system of giving and receiving help built on key principles of respect, shared responsibility and mutual agreement on what is helpful and simultaneously builds autonomy and community. Resources connected to peer support included:

cooperation, support, open discussion, reciprocity, advice,
companionship, exchange of information, sharing of knowledge

Every group identified their closest colleagues as the most important stakeholder group. Peer support was regarded as a low-threshold and easily accessible way of sharing knowledge and receiving advice in substantive matters. Seeking and receiving peer support was also recognized as an important for strengthening social ties among members of the case unit.

2) Managerial support
Managerial support was identified as important for receiving one-on-one informal support. Travaglione et al. (2017, 25) regard managerial support important in providing both skills and training but also for building a culture of trust that motivates organization members and ensures their involvement. Resources connected to managerial support included:

guidance, instructions, feedback, availability, accessibility, expertise, information, solving issues, mutual respect, leadership, sparring, trust, briefing, communication, enabling

Managerial support was identified as highly important by every group. Managers were valued for their high level of expertise and ability to provide guidance on substantive matters but also as "coaches" by for example sparring and giving feedback. Availability and accessibility were crucial expectations for managers lowering threshold for seeking support from them.

3) Group support
Group support was identified as a type of formal support. It refers to group meetings focusing on diagnosis of concrete problems and in providing solutions and instructions. It provides an educational experience for learning by doing and enables building reflective skills and knowledge. (Nichols & Jenkinson 2006, 26) Resources connected to group clinics included:

support in decision making, interactivity, learning environment, case-based learning, clear advice, insights, proposed solutions, well-prepared introductions

Support groups were connected to expectations for managers who act as chairpersons in support groups. Group clinics were also a way to combine peer support and managerial support as it provided a structured opportunity to discuss problematic cases in a group setting.

Questioning fundamental assumption of nature of work
Results of the workshop revealed a contradictory view of nature of work. Expectations portrayed a fundamental assumption of predominantly individual work but simultaneously seeking and receiving support in various ways formed strong ties between members of the case unit. This contradiction may be in part explained by Heerwagen et al. (2004, 511), who argue that modern knowledge work is both highly cognitive and highly social. Organization members need individual time to utilize their analytical skills to develop knowledge, but for information to become useful for the organization, it must be made available to others for scrutiny and further development.

Another consideration is the distinction between cooperation and collaboration. According to Kozar (2010, 16-17), cooperative work can be archived if colleagues do their assigned parts separately and bring results of their work to the table. Members of organizations doing cooperative work can belong in co-acting groups, who work in parallel to their colleagues doing similar sort of work, but in a discrete and independent manner with each member being held accountable for their personal output (Lyubovnika et al. 2015, 931). Although members of co-acting groups may extensively interact with each another, goal is mainly for helping individual members to competently meet their personal responsibilities (Hackman & O'Connor 2005, 3). Successful collaboration, in contrast, requires direct interaction among participants and involves sharing in the process of knowledge creation and learning together and involves negotiations, discussions and accommodating perspectives of others. (Kozar 2010, 17). Ekstrand (2016, 287-288) argues that collaborative nature of activity-based work and benefits of more social office environment may be rejected if value is still placed on individual work and work is still mainly conducted as individual tasks after relocation.

It can be concluded that members of case unit could find purpose and meaning in the relocation by questioning fundamental assumption of work as predominantly individual and recognizing that their work in fact already contains a high level of cooperation. Bringing New Ways of Working into workplace through relocation should be treated as an opportunity to examine current operations and find ways to transform work to take full advantage of the support system comprised of colleagues and managers of the case unit. Figure 15 visualizes the challenge that relocation poses to the organization in steering work culture towards a balance between supporting both individual and collaborative work.
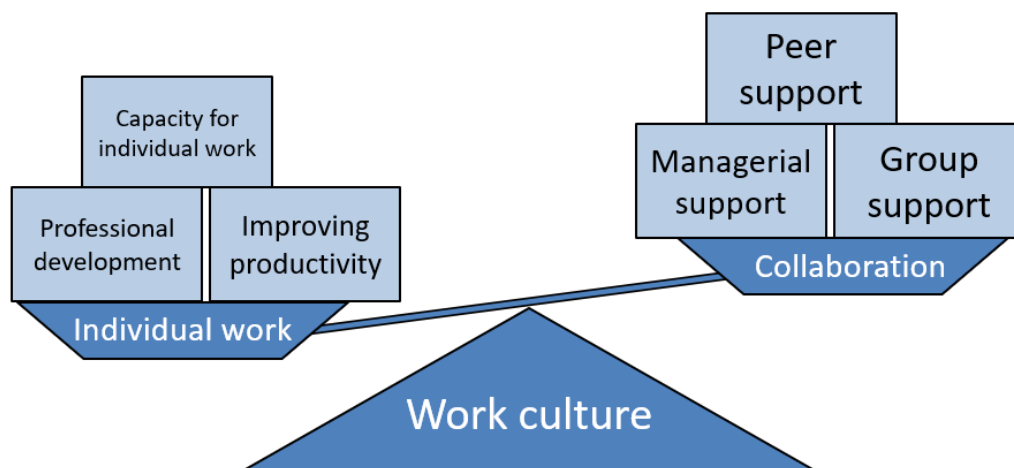
Figure 15: A stable work culture requires finding a balance between supporting individual work and collaboration

5.3   Discovering mobility patterns in activity-based office

Operations begun in the new premises on 20th May 2018, after physical relocation was completed. Office space was divided into several so-called "home bases" around a shared storage room that only personnel from that unit could access. Different home bases featured a signature colour scheme and a slightly different overall design. Each home base provided a complete set of six different work areas that were identified by sheets of office rules hanged on the walls. Appendix 2 contains summary of office rules and Appendix 3 an example picture of different work areas located in case unit's home base. Despite assigned home bases, employees were encouraged to choose workstation anywhere in the premises. Figure 16 demonstrates personal lockers and canvas bags that were assigned to organization members to store and carry work-related items such as a laptop computer and archived paper files.

Figure 16: Relocating from individual rooms to lockers and canvas bags

During the first month in activity-based office, researcher himself got accustomed to the new environment while also developing a tailored design probe for the case unit. Probe kit containing an introduction and eight tasks was then sent as an email attachment on 20th June 2018 to a mailing list containing all members of the case unit. Everyone was encouraged to take part but participating was voluntary and anonymous. Appendix 4 contains an English translation of the probe kit. Participants were asked to return probes by 31th August 2018. A reminder was sent out on 27th August 2018. Relocation took place at the beginning of a summer holiday season. A two-and-a-half-month time period was allocated for completing probe kits to provide everyone an opportunity to participate and to encourage a diary-oriented approach supporting an ongoing learning process.

Assignments were focused on encouraging active exploration of the new environment and its opportunities by employing individual job crafting strategies and collecting data with partici-

pant's self-documenting their experiences. Probe kit was also designed to support organization members 2nd informal redesign effort. Findings of literature research and empirical part thus far were used in developing the probe along with specific design of the new environment. Focus was on design probe as a learning tool that can benefit participants themselves. Subject matter of each assignment included an introduction and a task related to some aspect of activity-based office. Various service design and business management tools were used as a basis for assignments to provide kit with a playful feel.

A work-along observation was conducted by the researcher for the same two-and-half-a-month period as allocated for design probe assignments as a complementary method for data collection. No specific script for observation was used but researched paid attention to the topics covered in the probe kit. Insights were analysed together with returned probe kits.

Results of the design probe and work-along

Out of around 60 personnel of the case unit, total of 14 completed probe kits were returned. Mattelmäki (2006, 69) argues that due to highly rich material generated by probes, adequate target group size providing enough data for analysis can be considered as 5-10 participants. Return rate can be considered as very good, but it should be noted that only around a quarter of organization member took the opportunity to use probe kit as a learning tool for adapting to the new environment. Figure 17 displays an example of a completed probe kit.
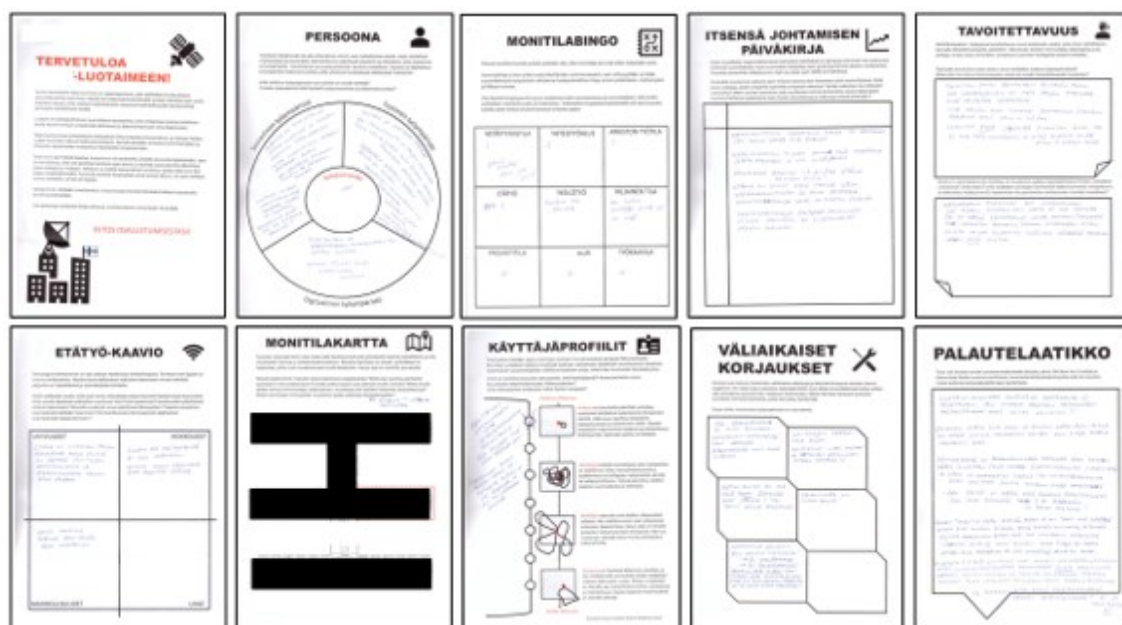
Figure 17: An example of completed set of design probe assignments

A distribution of returned probe kits by various stakeholder groups can be considered as comprehensive. Two probe kits represented supporting positions, eight professional positions and four management positions. As instructed by researcher, participants had interpreted probe

questions in their own way. A common theme among participants was to use assignments not only to reflect on their own behaviour and experiences, but also for observing and critiquing how others used the environment. This added unexpected richness to data. Most participants had completed all tasks with some skipping over a few.

A digital spreadsheet was created, where contents of each kit was recoded and transcribed. Researcher begun analysis by immersing himself to the data by first going through individual answers, and then answers to tasks one by one. Researcher then printed data out and cut it into paper slips containing quotes and observations to help with the coding process. Finally, themes were formed and color-coded using a text editor. Figure 18 visualizes phases of the analysis process. A challenge for analysis was that different assignments generated different types of data. Insight from work-along observation and data from probes that could not be transcribed into text were included in the analysis. However, topics of probe assignments varied and not everything ended up being relevant for research questions of this study. These insights are included in Chapter 6.4, where opportunities for further research are discussed.
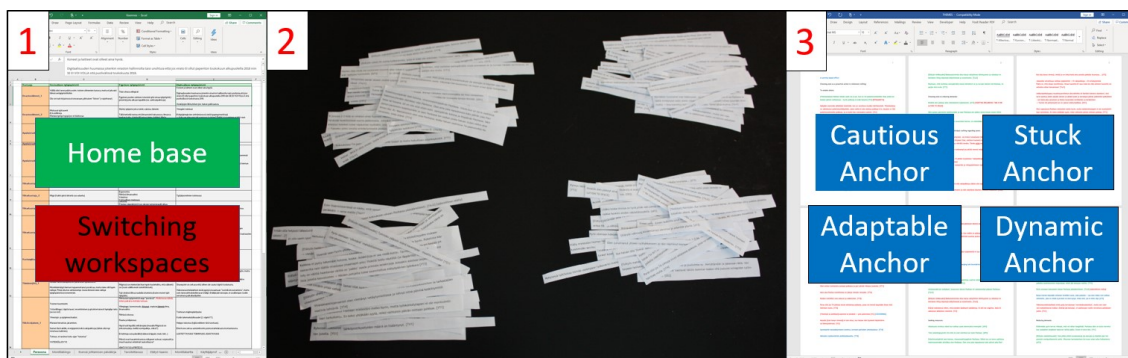
Figure 18: Data analysis was divided into three phases and resulted with several themes

Gorgievski et al. (2010, 271) argues that a major question regarding the validity of the activity-based office concept is whether organization members take advantage of its opportunities. Data was analysed to identify to which extent and why principles of the activity-based office, identified as objectives for relocation in planning and 1st formal redesign stages, were implemented. Furthermore, a set of four personas were created visualize archetypes of 2nd informal redesigns that emerged during the initial months after relocation. Insights and personas were used in a series of workshops with the case unit to evaluate the concept. Findings are discussed next, beginning with a general description of how the new environment was used by members of the case unit, and then the four personas are introduced.

Flexible use of the new environment
A fundamental guideline assigned for organization members in the preliminary event was an expectation of flexible use of the new environment. This refers to one of the key principles of

activity-based office (see Chapter 2.3) dictating that there are no longer assigned work-stations. Organization members are instead encouraged to choose their workstation anywhere in the premises according to their tasks and personal preference. Thinking behind this principle is that it creates opportunities for change encounters with people from other parts of the organization supporting knowledge sharing and innovation. This marks a major difference from a traditional office, where organization members are typically located according to the department they work at (van Koetsveld & Kamperman 2011, 305).

As first noted in Chapter 5.2, one of the defining decisions of 1st formal redesign was to appoint each unit a "home base" essentially recreating silos that existed between organizational units prior to relocation. Decision to formally guide organization members to designated areas was based on current division of responsibilities between units. Results of the stakeholder mapping discussed in the previous chapter confirmed rationale behind home bases by indicating that collaboration primarily takes place within an inner circle formed by members of the case unit. This is aligned with Ekstrand's (2016, 288-289) notion that while new environment may in theory be able to facilitate more collaboration between parts of the organization this does not happen if organization members have little to do with each other.

Figure 19 visualizes location of the case unit's home base in the overall floorplan in one of the two floors of the new premises. New premises were refurbished from an older layout based on the social democratic office discussed in Chapter 2.1 characterized by individual rooms along long corridors. Structure of the building resulted with limitations in accessibility of different parts of the floor further advocating for assigned home bases.
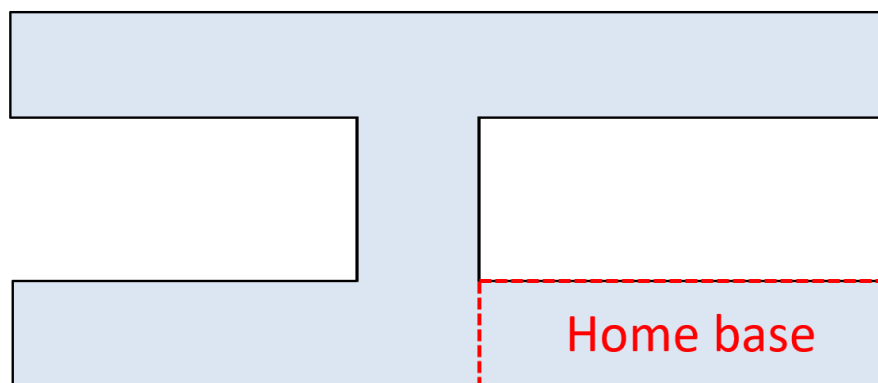
Figure 19: Location of case unit's home base in the overall floorplan

Observation by the researcher during initial months after relocation indicated that members of the case unit chose to use the new environment as guided by home bases and for the most part used zones and workstations within the designated area. Some of the tasks in the design

probe encouraged organization members to explore premises more widely but returned kits further indicated that few took advantage of this opportunity.

In Chapter 2.3 it was concluded that interaction between physical space, virtual space and social space and how they are organizationally brought together, forming a mental space, can be considered as the building blocks of modern knowledge work cultures. Data from probe kits were analysed to indicate central themes behind behaviour. A quote from design probe is used to illustrate different themes and connect them to spaces.

Physical space:
"Navigating in the new premises is confusing. Many areas have remained foreign to me."

After initial months in the activity-based office many organization members reported that they were by far most familiar with case unit's "home base". It was noted that layout of the office floor was overly complicated, and it was not easy to visit other areas. Furthermore, they did not find many reasons to explore other areas besides of attending a meeting that taking place in other parts of the building. Within "home base", some organization members felt that the rectangle-shaped layout made it sometimes difficult to locate their peers even if they resided in a relatively short distance from each other.

Digital Space:
"Paper archives tie me up to home base, so I do most of my work there."

Organization members were provided with laptop computers and each workstation was equipped with a docking station holding two external monitors, a keyboard and a mouse, and internet connection for accessing data bases and other interfaces. Even though most of the work was performed using a laptop computer, completing work tasks still often required access to sometimes bulky binders of archived paper files that were not available in digital format. This was cited as a fundamental roadblock for more flexible use of the activity-based office, because paper files could only be accessed by visiting the storage room located in the case unit's "home base". This was a recurring issue for working remotely, choosing areas other than "home base" and even when switching between workstation during the day. Organization members also reported growing importance of digital channels such as an instant messenger for communication, but possibility to discuss matters in person was still considered as the most effective way for cooperation and sharing knowledge.

Social space:
"I prefer staying in the home base because I want to be easily accessible in person."

Choosing "home base" over other areas was considered to benefit forming of social space because doing so increased amount of interactions between organization members in the case unit. Most often mentioned benefit was easy access to peer and managerial support. Some considered it as their responsibility to reside within "home base" in order to be available for others while in the main office. Inalhan (2009, 27) note that the idea of a "secure base" as an attachment to place is often connected to traditional office. Many organization members felt that they encountered each other less frequently in activity-based office due to increased time spent working remotely and not having individual rooms or even fixed workstations that could be visited by others. Choosing "home base" was for them a way to increase amount of chance encounters in order to sustain social ties to others. This way, maintaining a "home base" in activity-based office setting was a way to retain social space within limits of the case unit much similar with previous traditional office setting.

Choosing workspace based on conscious choice
Fundamental guideline assigned for organization members in the preliminary event was choosing workstation based on conscious choice. This refers to another key principle of activity-based office (see Chapter 2.3) where organization members are expected to choose their zone and workstation based on their current task and personal preferences. Gorgievksi et al. (2010, 217) specify that flexible use of workstations entails switching from one zone to another even multiple times a day rather than only to attend meetings or taking a break.

In the 1st formal redesign, each home base was designed to incorporate all different zones of activity-based office, making it possible to switching zones while remaining in one's "home base". Figure 20 illustrates different zones and other areas in case unit's home base, their relative size and position. It can be concluded that biggest single area was individual work zone, followed by collaborative work zone with rest of areas being relatively scare. Pictures of different zones and other workspaces can be found in Appendix 3.

1) Silent work zone
2) Study booths
3) Individual work zone
4) Collaborative work zone
5) Project room
6) Working cafe
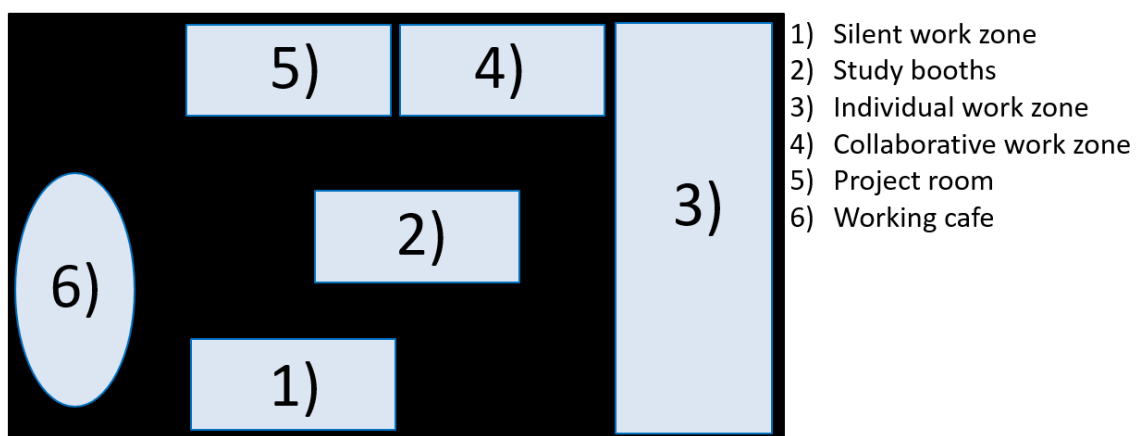
Figure 20: Workspaces and their relative locations in the case unit's home base

Researcher observed that members of the case unit rarely switched zones or workstations during the day. Instead of switching zones, some used other ways to control their environment for example by wearing headphones in collaborative work zone. Returned probe kits provided a lot of data revealing different use patterns and underlying reasons driving formation of different individual 2nd informal redesigns. Two overarching themes for overall passive use were identified in the data.

Lack of reasons to switch workstation during the workday:
"I cannot think of any reason why I would change zones during the day."

Many organization members reported difficulties in identifying compelling reasons for using more than one zone during the workday or from one day to the next. Even though zones had clear distinctions between them in theory, in practice there seemed to be little value in switching due to lack variety in work tasks. One notable exception, driven by office rules, was that receiving customer calls during service hours was only allowed in collaborative work zone or study booths, so people chose those area in days it was their turn to take customer calls. These findings are supported by Hoendervanger et al. (2016, 58-60), who argue that if work tasks are not very different from each other, there may be little reason for switching workstations. They add that distinction between different types of workspaces should also be meaningful enough to provide strong enough reasons for switching.

Obstacles for switching workstations during the day:
"I am not eager to switch workstation once I have laid out my stuff."

There were some practical obstacles brought up for switching workstations during the day. Many organization members felt that lack of compelling reasons for switching coupled with extra effort needed for collecting belongings, including binders of archived paper files, made the ordeal not worth the effort. Another issue was that general passivity made it not possible to switch to scarce areas, namely silent work zone or study booth, even if people would otherwise find it useful. It was not practical to collect one's things just to find out that there are no workstations available elsewhere. These findings are supported by Hirst (2011, 780) and Kingma (2018, 17), who conclude that expectation of switching workstations can be perceived as a hinderance for getting actual work done, especially when compared to traditional office, and create a constant practical concern requiring organization members attention.

It can be summarized that after initial months, organization had largely retained its old ways of working by recreating conditions of traditional office in the new environment. It can be concluded that 1st formal redesign based on these two core principles of activity-based office concept were only partially translated into individual 2nd informal redesigns. While members of the case unit predominantly choosing to reside in "home base" appeared to support coop-

eration, possibilities for more collaborative opportunities were not realized at this point. However, looking closer at the data, some distinct differences in mental space and behaviour within members of the case unit were also identified. A set of four persona cards communicating these insights and mindsets are discussed next.

Constructing personas

A set of four persona cards were constructed by the researcher to communicate findings to support evaluating validity of activity-based office in a collaborative workshop. Aim was to capture different configurations of mental spaces consisting of thoughts, beliefs, ideas and emotions through which organization members interpret physical, social and virtual spaces of the work environment (Vartiainen 2009, 1095) resulting with different 2nd informal redesigns. Personas also provided a way to portray different issues emerging in the new environment.

Greene and Myerson (2011, 23-24) in their characterization of different mobility patterns of knowledge workers describe the traditional low-mobility office worker as "the Anchor" because they are likely to be found sitting at their assigned workstation in the main office most days of the week. Description of their whole classification can be found in probe assignment called "Mobility profiles" in Appendix 4. Researcher took their depiction of "the Anchor" as the starting point of constructing personas underlining popularity of "home base" and lack of switching workstations during the workday as the defining factors of activity-based work in the case unit. Four types of "the Anchor" were identified in the data. Each a persona card contains name, photo and quote along with descriptions of mental space, mobility pattern, needs and want, frustrations and approach to job crafting.

Figure 21 visualizes personas in relation to each other from passive to active. Defining factor differentiating mental spaces was whether they adopted reactive or proactive approach towards change. Reactive approach (Cautious and Adaptable Anchor) resulted with mostly retaining "old ways of working" while proactive approach (Stuck and Dynamic Anchor) stived to adapt measures of New Ways of Working. Most members of the case unit can be classified as Adaptable Anchors with other three archetypes remaining in the minority.
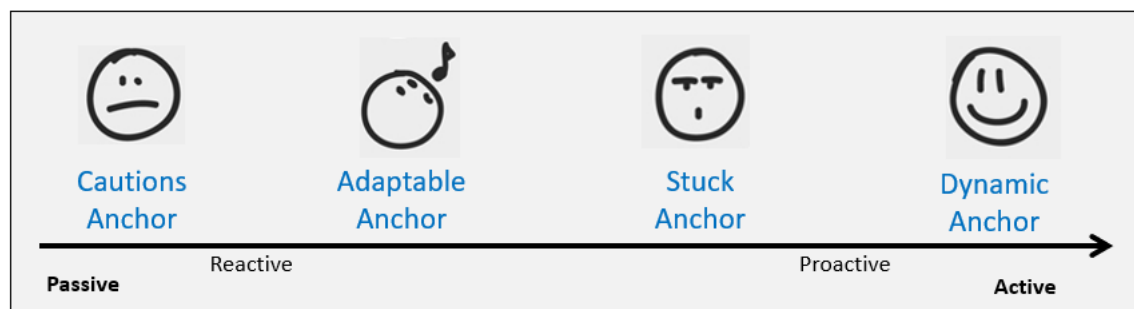
Figure 21: Relation of personas to each other from passive to active and reactive to proactive

Cautious Anchor

Cautious Anchor (see Figure 22) was defined by a conservative approach towards change by striving to recreate conditions of traditional office in the new environment. They valued ability to control their environment for privacy and concentration by choosing silent work zone or study booth as their primary workspace. This solution has a downside of limiting their accessibility by others as it was not possible to retain artefacts and behaviours such as an "open door policy" from the traditional office.

Cautious Anchor 😕	*My work requires privacy and opportunity to concentrate.*	
Mental space	Mobility pattern	
Traditional office worker with an individual room.	Silent work zone or study booth	
Needs and wants		
Needs an environment highly conductive to concentration and individual work. Wants to retain a high level of control over her of environment.		
Frustrations		
"How can I combine my need for concentration with being available for others?"		
Job crafting		
Reactive approach to change resulting with a passive mobility pattern. Reduces job demands related to more collaborative environment as a coping mechanism.		

Figure 22: Cautious Anchor persona card

Cautious Anchors' mental space remained as a traditional office worker with an individual room. They felt that traditional office had provided an optimal balance between being able to concentrate and being available for cooperation by simply knocking on the door. This cultural artefact was lost in the activity-based office, where such combination of features was not available. Instead, logic was that workspaces for concentrated work would only be used for short periods of time in between predominantly collaborative work with only around 10% of workstations residing in these two workspaces. This contradiction made visible a sticky problem in activity-based office concept on how to create a coordinated way of working while still allowing for individual autonomy and control (Harrison et al. 2004, 112-113).

Cautious Anchors' reactive approach to change resulted with a passive mobility pattern. Their job crafting strategies included some negative aspects. Limiting their mobility pattern to silent work zone and study booths lowered their job demands related to increasingly collaborative environment. This made their availability and accessibility lower than it had been in the traditional office because there was no easy way to contact them besides digital channels. It was perceived by some that more people begun to seek peer or managerial support from them as a result. Furthermore, Cautious Anchor were considered as limiting availability of scarce workspaces for others making it hard to switch workstation when needed.

Adaptable Anchor

Adaptable Anchor (see Figure 23) was defined by a laid-back approach towards relocation. They valued an effortless experience without too much hassle and an easy access to peer support by choosing individual work zone or collaborative work zone as their primary work-space. They were quick to establish their favourite spot in case unit's "home base" often around their closest colleagues. This solution had a downside of limiting their exposure to only a few peers and resulting with an overall stagnant flow of people in the "home base".

Figure 23: Adaptable Anchor persona card

Adaptable Anchors' mental space remained as traditional office worker with a designated multi-purpose desk they only rarely needed to leave. They found a "sweet spot" based on individual preferences and opportunities for cooperation with peers (Candido et al. 2019, 275-276). While Adaptable Anchors did empty their workstation at the end of the day, they often returned to the same workstation the next day if possible. Furthermore, groups of colleagues begun to form so-called "flexible working communities" (Inalhan 2009, 28) that translated social ties from the traditional office to the new environment. Instead of visiting each other in their rooms, they could now talk to colleagues close by over the partitions between work-stations forming a new cultural artefact and behaviour.

Adaptable Anchors' reactive approach to change resulted with a passive mobility pattern. Their job crafting strategies had both positive and negative aspects. Choosing workstation based on "usefulness" of surrounding colleagues with similar tasks allows for brief interac-tions (Heerwagen et al. 2004, 512-513, 516) and can be considered as an effective strategy for cooperation. However, this resulted with "fixed flexi-working", where some of the rules of activity-based office are followed, but the fundamental principles are ignored (Vos & van der Voordt 2001, 53). This resulted with them missing on opportunities to use workspaces more flexibly for example their own tasks required environment for concentration.

Stuck Anchor

Stuck Anchor (see Figure 24) was defined by a proactive attitude towards change in principle but having trouble in maintaining flexible way of working in practice. Because of the overall stagnant flow of people in the "home base" they felt "stuck in one zone" and found themselves questioning whether it was worth the trouble to continue the effort. The upside is that by removing obstacles for mobility Stuck Anchors could be supported in implementing New Ways of Working according to objectives of the relocation.

Stuck Anchor	*I am stuck at using one zone, and the same seems to have happened to many others.*	
Mental space In between traditional office worker and flexible worker	**Mobility pattern** Begun by exploring different workspaces but is now settling down to a limited range of workstation in a familiar zone.	
Needs and wants Needs clarity on what kind of behaviour is expected in activity-based office. Wants to take advantage of opportunities of the new environment.		
Frustrations *"Changing workstations during the day is not possible because nobody else does."*		
Job crafting Proactive approach to change but struggles to maintain an active mobility pattern. Obstacles to job crafting reduces ability to take advantage of new job resources.		

Figure 24: Stuck Anchor persona card

Stuck Anchors' mental space can be described as in transition between traditional office worker and flexible worker. They felt heavily impacted by actions of their colleagues in whether they felt supported or not in utilizing opportunities of more collaborative environment. Contradiction between expectations and reality led them feeling "damned if you do and damned if you don't". (Putnam et al. 2013, 414). Stuck Anchors' struggle made visible the fundamental issue that activity-based office can only function as intended if a high enough rate of movement is established during the workday so that organization members are able to switch workspaces according to their tasks (Penn 1999, 217).

Stuck Anchors' proactive approach to change was visible in their willingness to explore opportunities of activity-based office. They strived to cognitively craft their approach to work to align with mindset of flexible worker. Job crafting is a socially embedded and adaptive process, where structural issues can limit organization members perception of their opportunities to proactively craft their jobs (Berg et al. 2010, 159). It is important to provide opportunities for Stuck Anchors' to bring up their insights in collaborative job crafting setting to figure out with others how some of the obstacles for flexible work could be removed.

Dynamic Anchor

Dynamic Anchor (see Figure 25) was defined by the most proactive approach towards change that was realized through conscious effort in finding ways to utilize opportunities of activity-based office for promoting easy accessibility for support. They valued potential for increasingly collaborative way of working and recognized needs of others when choosing their workspace. A downside in this approach was that it required increased effort and sometimes frustration over planning workdays in advance to find the most productive way of working.

Figure 25: Dynamic Anchor persona card

Dynamic Anchors' had transformed their mental space to that of a flexible worker. They can be considered as change agents in the new environment. Dynamic Anchors did not just not just configure their own work, but they let themselves be configured by other members of the organization (Brown & O'hara 2003, 1582). Their behaviour underlined importance for establishing trust in others to follow principles of activity-based office. They began to consciously create new cultural artefacts by for example positioning themselves in highly visibly areas and by regularly working from different workspaces (Ekstrand 2016, 291).

Dynamic Anchors' proactive approach to change resulted with an active mobility pattern. This did not come naturally but required conscious effort in learning to utilize job resources of activity-based office. It also required perseverance in maintaining the effort and foregoing some personal preferences to being able to provide opportunities for others. Adapting their behaviour to more collaborative environment resulted with heightened job demands which may prove unsustainable if their efforts are not supported by the work culture of the case unit in the future.

5.4   Evaluating validity of the activity-based office concept

Development project continued with four identical workshops that were held separately for each of the four sections of the case unit. Workshops took place around five months after relocation. Two workshops were held on 29th October 2018, one on 30th October 2018 and one on 5th November 2018. Each workshop lasted for 1,5 hours. By then, daily operations had begun to normalize around various 2nd informal redesigns by organization members. It was time to evaluate validity of activity-based office concept (Gorgievski et al. 2010, 271) and consider adjustments could that should be undertaken based on evaluation of how far organization had moved culturally towards desired behaviour and objectives (Allen et al. 2004, 71).

Members from each section were invited to participate in a workshop scheduled in a time slot ordinarily received for their weekly meeting. This made arranging workshop easier and ensured that both location and timing was suitable for everybody because they had already marked it to their calendars. Each separate workshop had around 15 participants that all knew each other well in advance. Researcher chose to facilitate four separate workshops because he believed that smaller groups sizes would enable open conversations with focus on those organization members that interacted with each other most in their daily work.

Workshops aimed at using service design as an inquiry to organizational culture. Goal was to engage members of the case unit in discussion on underlying values that determine what norms are followed dictating appropriate and inappropriate ways of working (Rousseau 1995, 49) in order to evaluate validity of activity-based office concept. Conversations of opportunities and possibilities focusing on generating involvement through a shared language (Ford & Ford 1995, 548) could then be based on interpretation of the organization itself by visualizing and demonstrating value of change based on what has been learned so far (Junginger & Sangiorgi 2009, 4346) and to identify paths of development.

Workshops begun with an introduction by the researcher, where results from earlier parts of the development project and goals of the workshop were summarized. Wilkinson (2004, 57) suggests that for this type of resolution seeking workshop, group size should be small enough to ensure that each participant is heard and that participants can discuss perspectives thoroughly to separate their personal position from underlying issues. Following this advice, after the introduction participants were asked to form groups of 3-4 people. Four groups were formed in each workshop. A set of four persona cards introduced in Chapter 5.3 were used as a basis for design activities during the workshop.

Workshops were divided into three steps based on spectrum mapping, idea portfolio and impact and effort matrix. Each step of the workshop had a specific focus and aim of generating conversations, moving the process along and collecting data for the development project. Step by step instructions can be found in Appendix 5. Timing of workshops was kept flexible

with enough time allocated for each group to finish their discussion while keeping up with the overall schedule. Canvases were used to collect data and to provide a visual aid for participants. Each group received a canvas divided into ten squares for each axis (10x10=100 squares total). Vertical axis was named "activity-based office concept" based on underlying principles of activity-based office (flexible use of premises, switching workstations according to task). Horizontal axis was named "needs and expectations" based on results of workshop held in May 2018 a week prior to relocation (finding balance between individual work and collaboration). Figure 26 portrays an example of a completed canvas followed by summary of steps.
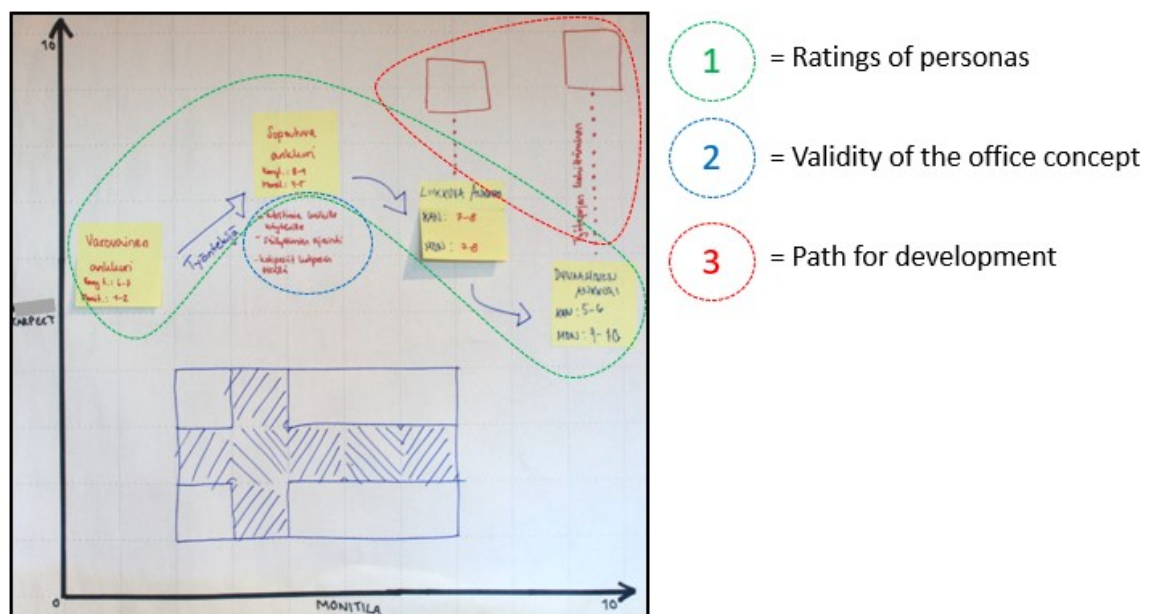
Figure 26: Canvases got gradually filled as the workshop progressed

In the first step, a separate spectrum map and idea portfolio was created by each group. Using the set of four persona cards as a starting point, groups were encouraged to have discuss and write down their experiences in the new environment. Groups were then asked to rate each persona card on both axis on scale of 1 to 10, mark their evaluation on a sticky note and place it on canvas alongside any specific notes they have for that persona. By going through each persona card, groups created a rating system revealing different attitudes and opinions.

In the second step, groups were asked to continue conversations and evaluate validity of activity-based concept based on the rating system they had created. Groups were asked to consider how well current mobility patterns were aligned with needs of the case unit, what kind of change in mobility would be beneficiary and why would that change be worth pursuing. Personas and their ratings provided a starting point for considering if some mobility patterns should be considered more appropriate than others.

In the final step, impact and effort matrix was used to identify possible paths for development. Groups were asked to continue discussion by considering and writing down what kind of change is realistic at this point and what is needed to make desired change happen. Groups were encouraged to consider paths that would lead to realizing relocation as a win-win solution for organization and members of the case unit in a sustainable way.

Results of workshops

Canvases were photographed and stored by the researcher. A digital spreadsheet was created to record contents of each workshop. Workshop generated two types of data (numeric and text) that were analyzed separately. Analysis had several goals and was completed in several cycles. First, a chart was created visualizing average ratings of all groups for various personas to understand how well various 2nd informal redesigns reflected needs and expectations of the case unit in context of activity-based office concept. Then, data in text format was analyzed and results were divided into two themes. First, a core value and behavioral norm underlying thinking of participants were identified. Three viewpoints in the data was then identified, building on shared value and norm, but suggesting different prioritizations and trade-offs that could or should be made resulting with different paths of development. Figure 27 portrays phases of the analysis process.
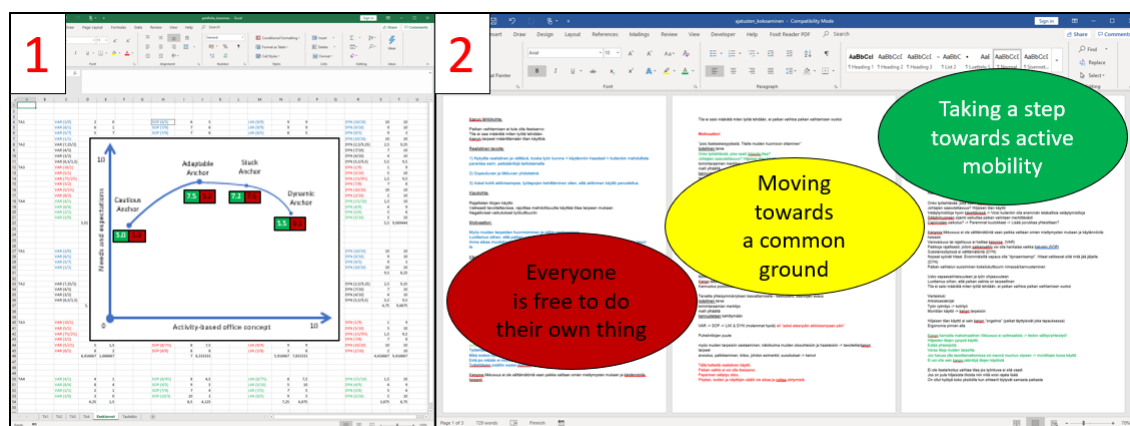
Figure 27: Data analysis was divided into two phases and resulted with several themes

Ratings of profiles

Figure 28 portrays average ratings of personas representing various 2nd informal redesigns between all workshops and groups. Ratings should not be considered as statistically significant, but rather as a summary of visual aids that groups created during the workshop and used to guide their subsequent conversations. However, several conclusions can be drawn based on ratings and discussions that ensued. Ratings on horizontal axis aligning with principles of activity-based office concept follow the logic of "more active use is better" suggesting that underlying thinking behind the concept is recognized by members of the case unit. However, when combined with ratings on vertical axis representing case unit's needs and expec-

tations, a "bell-curve" is formed where both extremes of passive and active use are rated lower than moderate activity levels in between. This visualization engaged groups into conversations of whether more active use is necessarily better for the case unit, if it is worth striving towards more active use in the future or whether there some other more suitable and sustainable alternative. Contents of conversations are discussed next in more detail from the point of view of work culture and organizational change.
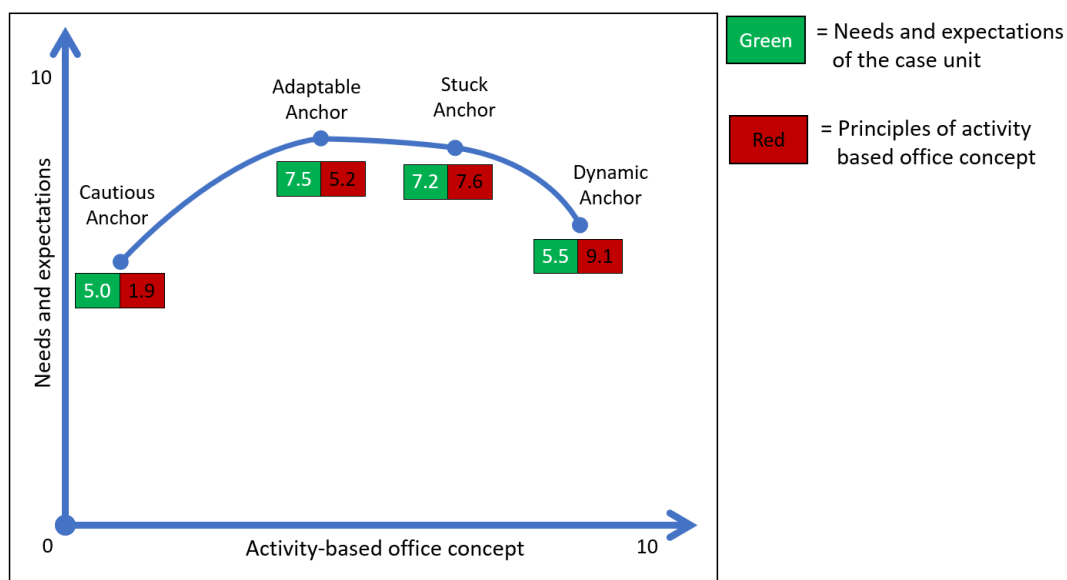
Figure 28: Personas were evaluated on a two-dimensional ranking system

Shared value and behavioral norm as a basis for future development
Conversations during the workshop generated a wide variety of data related to organization members experiences and observations of the new environment, insights on validity of the activity-based office concept in general and from the point of view of the case unit, and views on possibilities and opportunities for how to move forward. Data was analyzed to clarify a core value and norm dictating appropriate and inappropriate ways of working in activity-based office, and to identify viewpoints for re-thinking trade-offs between various 2nd informal redesigns to progress towards organization members learning to perform together. Underlying "core value" and related behavioral norm shared by members all sections of the case unit that formed a guiding principle for future development are discussed next.

Core value determining behavioral norms in activity-based office:
"Case unit's needs and expectations determine how activity-based office is used"

A shared core value identified in the data was that needs and expectations deriving from nature of work performed in the case unit should be considered as a guiding principle for how activity-based office is used. This conclusion followed an overarching theme of conversations, where activity-based office concept as a top-down and one-size-fits-all solution for needs of

modern knowledge workers was rejected. Activity-based office itself comprised only a physical artefact representing the outer layer of the organization that did not itself hold a meaning for members of the case unit (Rousseau 1995, 51). Instead, conversations of possibilities and opportunities were built on an inside-out approach based on the fundamental assumption of the nature of work performed in the case unit. Questioning fundamental assumption of nature as work as predominantly individual provided a meaningful starting point for finding purpose and meaning in the relocation as a win-win solution.

Shared norm dictating behaviour in activity-based office:
"Switching workstations is not be a goal in and of itself"

A shared norm derived from the core value was that what is appropriate or inappropriate behaviour in activity-based office should be derived from trade-offs in finding a balance between individual and collaborative work performed in the case unit. As a conclusion related to ratings of various personas, so-called best practices of activity-based office, where active use itself is considered beneficial, were rejected. It was concluded that both passive and active use can have benefits, but those are contingent of context or the organization rather than office concept itself. Implementation should therefore focus on developing organizational culture conductive to the aims of the organization rather than enforcing organizational aims through formal mechanisms (Penn at el. 1999, 195).

Viewpoints on activity-base use and need for improvement to meet unit level needs
Conversations engaged participants to consider their capacity and motivation to change and possible paths for future development. Data derived from these conversations was analyzed to discern between three viewpoints building on shared core value and norm. A spectrum of viewpoints signified a lack of clarity that still existed on the direction of change within the case unit based on evaluation of validity of the activity-based office concept.

Each of the three viewpoints are discussed next to further analyze underlying thinking and suggested trade-offs brought up in conversations. Analysis reflects viewpoints in relation to the overall aim of the case organization of bringing New Ways of Working into workplace by relocation to activity-based office. Viewpoints are ranked in order of significance of change effort envisioned, beginning with little or no change required by relying on "old ways of working", moderate change required to aligning thinking within existing operations, and major changes by rethinking operations by transforming to New Ways of Working. These viewpoints characterize how evaluation of how far organization has moved culturally impacts adjustments that should be considered (Allen et al. 2004, 71). Recognizing these viewpoints and considering their strengths and weaknesses in realizing objectives set for relocation enables proactive steering and support of culture formation towards agreed vision and co-creating an agenda for change (Junginger & Sangiorgi 2009, 4344).

1) Everyone is free to do their own thing

Viewpoint most aligned with "old ways of working" emphasized idea related to "freedom of choice" connected to activity-based office. If someone wants to use new environment flexibly, they are free to do so, but no-one should be expected to. A weakness of this approach is that an un-coordinated implementation approach is unlikely to lead into organization-wide adaptation of New Ways of Working (van Koetsveld & Kamperman 2011, 310-311). This would entail generally passive behavior becoming the accepted direction and norm. Figure 29 visualizes the emphasis on freedom of choice of this viewpoint.
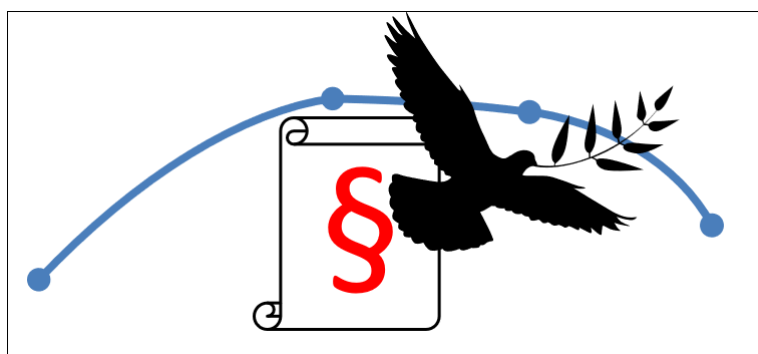
Figure 29: Freedom of choice within limits of the office rules

Retaining freedom of choice: *"Everyone knows best how to use activity-based office"*
Underlying principle of this viewpoint is derived from the notion that knowledge workers are increasingly themselves responsible for managing and planning their work. Accordingly, organization members themselves best know how they should use activity-based office and their choices should not be questioned by others. Setting boundaries between individual work and collaboration and resulting behavioral patterns remains solely in control of the individual organization member based on their assessment on nature of their work tasks and situation.

Practical issues: *"Nature of work and practical issues do not motivate more activity"*
Nature of work as still predominantly individual and functional issues arising in the activity-based office were cited as rationally justifiable reasons for prioritizing individual needs and preferences. There is only minimum practical need to switch workstations during the day or from one day to the other. Limited number of workstations, having to carry over paper and having to perform adjustments in the new workstation is a detriment to productivity.

Path of development: *"Improving office rules but retaining minimum level of restrictions"*
Office rules were considered as the primary way that can be used to guide behavior. Improving office rules by making rules clearer and removing room for interpretation could provide non-intrusive path of development. This could make people's choices more aligned while still retaining freedom of choice. In this viewpoint cultural change is contained to what can be accomplished in a top-down fashion through formal and visible organization structures.

2) Moving towards a common ground

Viewpoint emphasizing need for establishing a shared understanding on how to use activity-based office represents a shift in fundamental assumption regarding nature of work in the case unit. This requires finding a balance between individual preferences and needs of others for collaboration. Strength of this viewpoint can is focus on translating how change that affects "me" can contribute to a workplace that benefits "us" as a feature of a successful implementation (Dierman & Beltman 2016, 281). This would entail finding a common ground between extremes of passive and active behavior. Figure 30 visualized the collaborative nature of this viewpoint.
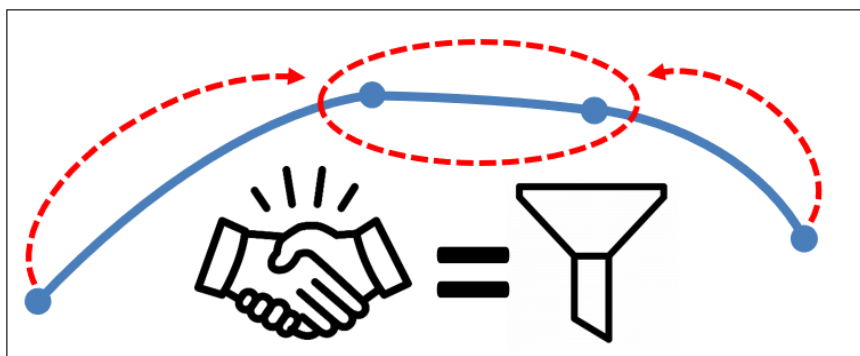
Figure 30: Finding a common ground requires building trust

Enhancing collaboration: *"Recognizing and meetings needs of others"*
Underlying principle of this viewpoint is derived from acclaimed benefit of activity-based office as an enabler of more collaborative work while still allowing for bouts of individual concentrated work. Accordingly, performing in the new environment requires establishing a situation where these needs can be satisfied by everyone in the case unit. Setting boundaries between individual and collaborative work is itself a result of collaborative effort.

Aligning usage: *"Not too passive and not too active use meets needs of unit's members best"*
Aligning behavioral patterns towards moderately active use would meet needs of members of the case unit by freeing up spaces for concentrated work while also removing expectation of retaining a highly active use pattern that would not bring additional benefits. Following this guideline would make sure they remain easily accessible for most of the time.

Path of development: *"Learning to become more flexible"*
Finding a common ground was considered requiring members of the case unit to learn more flexible approach in configuring one's own work in a way that leverages opportunities and possibilities of activity-based office for oneself and others. In this viewpoint cultural change results predominantly from a collaborative bottom-up effort. This can support creating trust and predictability in others following shared behavioral norms that is a key part of developing a stable organizational culture (Rousseau 1995, 51).

3) Taking a step towards active mobility

Viewpoint most aligned with New Ways of Working emphasized need to reconfigure operations of the case unit in order to leverage opportunities of the activity-based office. This requires coordinated effort towards work transformation. Strength of this viewpoint is in actively creating New Ways of Working while also maintaining a continuous dialogue for a coordinated effort (van Koetveld & Kamperman 2011, 310-311). This would entail a change effort where everyone is enabled to take a step towards more active use. Figure 31 visualizes the proactive nature of this viewpoint.
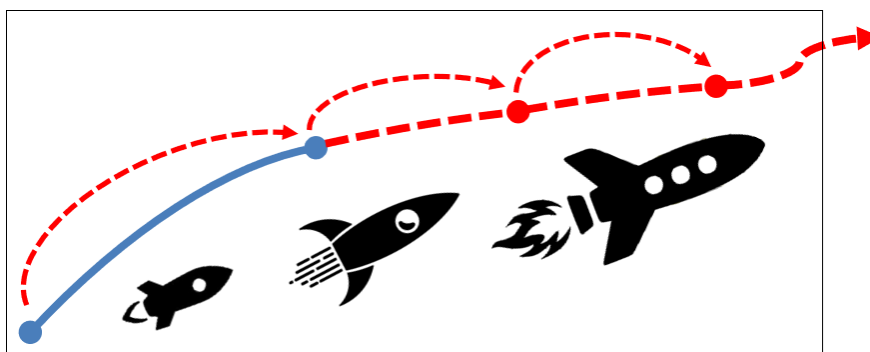
Figure 31: Everyone taking a step towards active mobility

A long-term view: *"Recognizing that change towards flexibility requires time and effort"*
Underlying principle of this viewpoint is the notion that simply providing different workspaces is not enough to create change (Nathan & Doyle 2002, 30). Taking control of activity-based office requires transforming "old ways of working" into New Ways of Working rather than trying to fit existing operations into the new situation as is. Boundaries between individual and collaborative work should be renegotiated.

Enabling flexibility: *"Aligning New Ways of Working with unit members' needs"*
Taking a proactive approach towards change by developing new practices could create a situation where more flexible use of activity-based office would become a desirable option. This requires better aligning activity-based office with unit members' needs and expectations. This approach underlines the importance redesigning practices as an important part of the continuous change process and culture creation (Ekstrad 2016, 283).

Path of development: *"Creating a situation enabling more active use"*
Creating New Ways of Working requires removing obstacles for more active use by questioning how operations should be conducted in activity-based office by organization members to take advantage of the more collaborative environment. This approach is conductive to Penn's et al. (1999, 195) view that focus of implementation should be on developing organizational culture conductive to the aims of the organization rather than enforcing organization aims through formal mechanisms.

5.5   Developing solutions enabling continuous change

Development project concluded with a co-creative workshop held on 22nd November 2018 during an offsite training day. All members of the case unit were invited with total of around 60 people attending. Workshop was facilitated by the researcher and took place in the afternoon in a conference centre and lasted for two hours.

Goal of the workshop was to ideate improvements based on three paths of development identified in previous workshops discussed in Chapter 5.4. Workshop included elements of organizational change theories and approaches and built on earlier design inquiry to organizational culture. Trigger questions were formed to facilitate conversation of action (Ford 1999, 492-493) and to guide organization members building on each other's ideas with focus on creating solutions. Workshop also provided an opportunity for organization members to co-create their environment though collaborative job crafting (Vogel et al. 2016, 1562) by carrying over insights from 2nd informal redesigns and turning them into organizational outcomes (Bertolotti et al. 2005, 378) and preparing them for learning to perform together to in activity-based office (van Aken 2007, 76-77).

Workshop begun with an introduction by the researcher, where results from earlier parts of the development project and goals of the workshop were summarized. Wilkinson (2004, 57) suggests that for this type of direction setting workshop, group size should be large enough to gain a diversity of ideas yet not so large as to make discussions unmanageable. Following this advice, after the introduction people were instructed to form groups of no more than five participants and find a spot around three rows of long tables in the conference room. Each of the nine groups received a blank canvas and pens of different colours write up their ideas.

Worksop were divided around three trigger questions formed around "how might we" questions around three paths of development representing different viewpoints for change:

- *"How might we support change through office rules?"*
- *"How might we support learning flexible ways of working?"*
- *"How might we support developing operations in the new environment?"*

Topics provided an opportunity for organization members representing different viewpoints to gain empathy towards other views and opportunities, and in working together towards and agreed vision and co-creating an agenda for change (Junginger & Sangiorgi 2009, 4344). Focus was not in reaching complete answers but rather find ways of steering sustainable culture creation and continuous change in the future towards a shared vision. Groups progressed at their own pace, but the researcher made sure that all groups were able to finish within the allotted timeframe. Groups were able to take a coffee break during the workshop when needed. Instructions given at workshop can be found in Appendix 6.
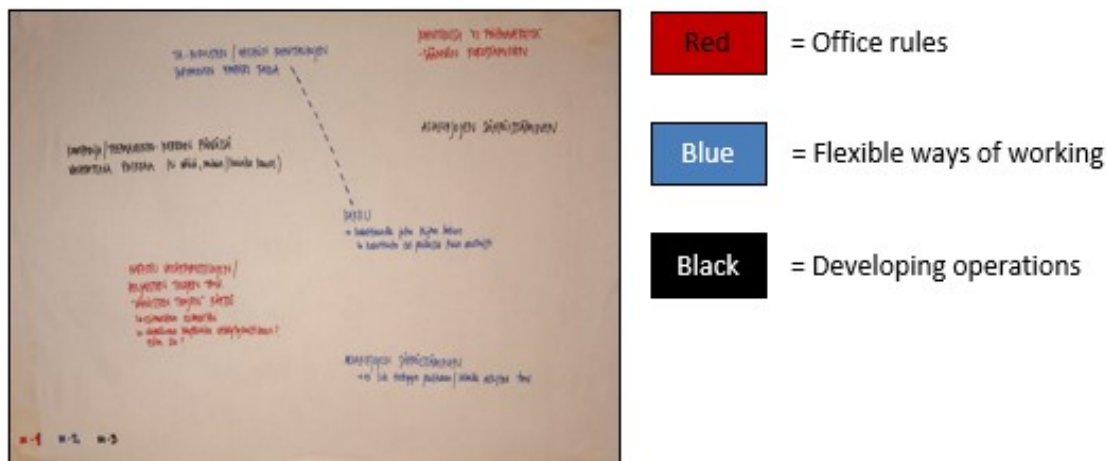
Figure 32: An example of a completed ideation canvas

Results of the workshop

Canvases were photographed and stored by the researcher. A digital spreadsheet was created with transcribed data from canvases on each of the topics covered. Data as a record from conversations of action included a mixture of ideas together with conclusions and statements regarding issues related to new work environment. Many insights echoed issues already revealed in earlier phases of empirical study but converted into an actionable form. Figure 32 below portrays an example of a completed canvas.

Goal of analysis was to synthesize data and combine elements from different viewpoints into concrete and actionable solutions around the three topics covered in the workshop. Solutions aimed at supporting transition from stage of 2nd informal redesign into learning to perform together and from a project-based approach to a process of continuous learning and adaptation (van Aken 2007, 76-77). Each theme formed a part of the overall holistic solution in attempt to innovatively combine different viewpoints and paths for development.

A common theme across solutions is view of workplace change as a learning process. In accordance with transformative design approach, goal was not only to create new solutions but to provide organization with tools, skills and capabilities for continuous change (Burns et al. 2006, 21). Proposed solutions support iterative adaptation process preventing change from getting stagnated and gradually moving organization towards work transformation.

Results of the workshop were presented on 27th November 2018 in a monthly all-hand meeting for members of the case unit. The deliver phase, focusing on implementing final solution, was out of scope of this thesis work. Recommendations for implementation are provided in Chapter 5.6. Proposed solutions are discussed next together with illustrations providing some of the topical notions brought up in conversations.

Office rules as a tool for moving work culture towards desired activity level

Ideas related to how might office rules better support change brought up views on their potential impact on features that differentiate workspaces and how they used by organization members. Shared rules around flexible way of working were considered as a measure to ensure establishing an appropriate work culture (Harrison 2004, 30). It was also recognized that office rules should not be considered as being set in stone, but as one of the tools for continuous learning and adaptation. Figure 33 illustrates proposed solution of using office rules as a tool for moving work culture towards desired activity level through an iterative cycle of assessing and adjustment.
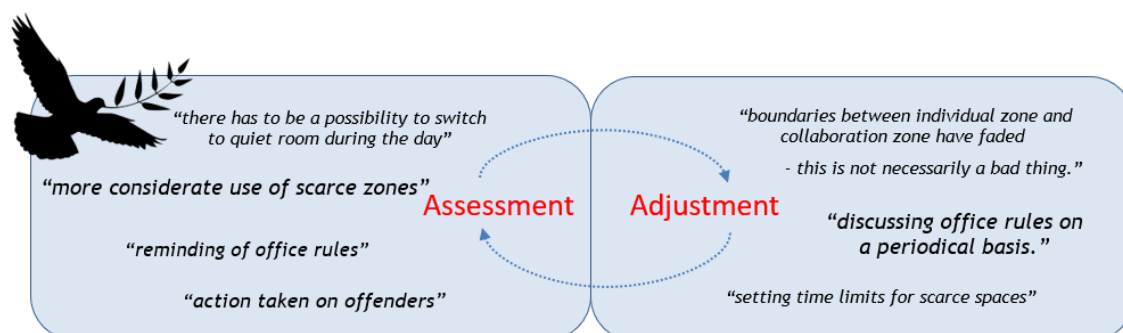
Figure 33: Iterative cycle of assessment and adjustment of office rules

During *assessment phase*, members of the case unit can collaboratively evaluate how well current office rules support needs and expectations set for operations in the activity-based office. A periodical reflection would also serve as a conscious remainder of office rules. Periodical reflection can provide a structured channel for feedback, overcoming obstacle of organization members being otherwise mostly reluctant to keep others accountable (Kingma 2018, 17) and bringing up behavioural issues among colleagues (de Been et al. 2015, 7). Other considerations include how far has the work culture evolved, have needs of the unit changed, and how this should be reflected in constructing office rules. Regular conversations could establish deeper meaning to office concept as an outer layer of organizational culture.

During *adjustment phase*, office rules can be revised by organization members based on what has been learned so far. This could entail changing existing rules, creating new rules or removing unnecessary rules. Setting clear office rules could remove ambiguities, uncertainties and interpretations over time (Rolfö & Babapour 2017, 344). Since setting strict office rules are opposed to the philosophy of trust behind activity-based office concept (Appel-Meulenbroek et al. 2011, 134) and rules prohibiting interaction can be considered as countering reasons to relocate in the first place (Bakke 2017, 32), goal should be towards empowering collaboration with need to for changes getting smaller as organization members learn to perform together and cultural change progresses towards desired outcomes.

Creating flexible mindset as an integral part of professional development

Ideas related to supporting learning more flexible ways of working emphasized importance of everyone following shared behavioral norms and learning to perform together. It was suggested that creating flexible mindset should be recognized as one of the expectations and assessment criteria for members of the case unit in the new environment. On group level development should focus on reassessing fundamental assumption of work as predominantly individual. Figure 34 illustrates proposed solution of creating flexible mindset as an integral part of professional development through an iterative cycle of individual and group level activities supporting learning to perform together.
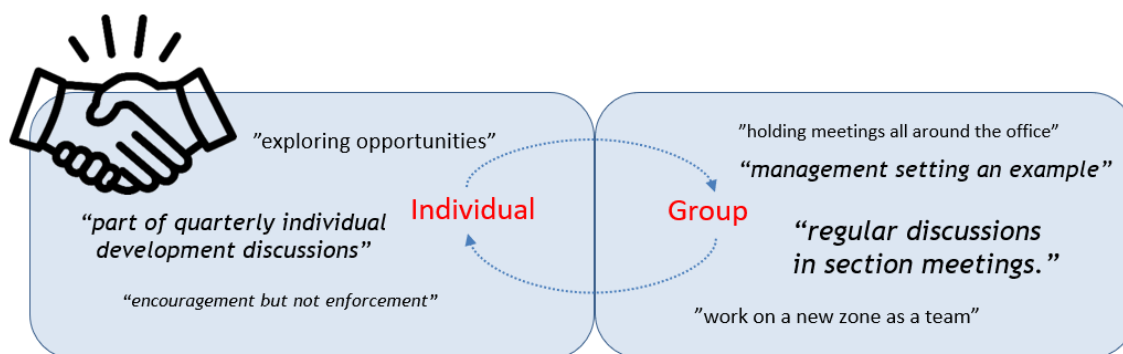
Figure 34: Iterative cycle of individual and group level development of flexible mindset

On *individual level* development should focus on personal ways of working such as flexibility, mobility, prioritizing, planning and utilization of information technology (Palvalin et al. 2015, 485) and for example job crafting strategies (Wrzesniewski & Dutton, 2001; Demerouti et al., 2001). Managerial support should be extended to actively cover issues related to creating flexible mindset by inserting it as one of the topics in "periodical development discussions" that organization members have with their managers. Furthermore, progress could be recognized as part of performance evaluation, enabling use of reward management as a tool for creating cultural change (Wilson 2003, 137) with rewarding practices supporting reshaping work culture by expressing beliefs desirable behaviour (Armstrong 2010, 16).

On *group level* development should focus on supporting organization members learning to perform together. Collaborative job crafting strategies could be utilized to focus development to the most relevant issues. Development could also extent to rethinking operations on by finding ways to bring more collaborative elements through team-based working beyond co-acting groups. This would require basing operations on real team membership that requires teams to work close and interdependently with shared objectives and regular reflection to review team effectiveness (Lyubovnika et al. 2015, 931). Group level development could be integrated to weekly or monthly meetings on section or unit level.

Enabling active mobility patterns and team-based work

Ideas related to supporting developing operations in the new environment focused on removing obstacles in the environment for supporting active mobility patterns and to enable team-based work. Adjustments could help in aligning activity-based office with needs and value of organization members (Skogland 2017, 72) in an effort of shifting work culture towards more collaborative way of working. Figure 35 illustrates proposed solution of enabling active mobility patterns and team-based work through an iterative cycle where elements of the work environment are further tailored to needs of the case unit.
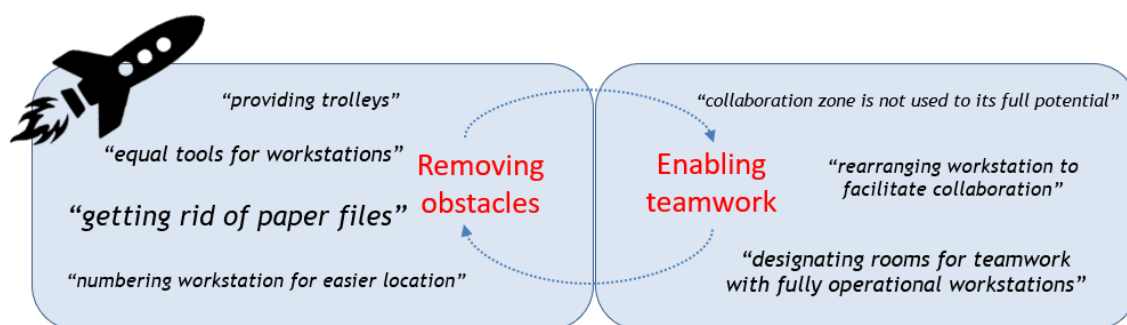
Figure 35: Iterative cycle of removing obstacles and enabling team-based work

Removing obstacles from active use was considered as a prerequisite for more flexible ways of working. Removing identified mobility issues such as relying on paper files could enable switching workstations during workday. Further differentiating workspaces from one another could help feature of activity-based office to "break through" (Ekstrand 2016, 290) and create intensives towards desired behaviour. Making it easier to locate colleagues could improve access to peer support while lessening need to locate in the same area. Functionality of the environment could be periodically evaluated for example together with office rules.

Enabling teamwork focused on creating workspaces that would enable collaborative work in practice. Rearranging workstations in collaborative work zone or creating new workspaces dedicated for work performed in small teams together with developing operations towards more team-based work could help aligning physical space with work culture. Together with other periodical evaluations, it should be considered how much of space should be allocated for individual work and collaborative team work to maintain a proper balance.

5.6   Results of the development project

The development work, supporting one of the units of the case organization in bringing New Ways of Working into workplace by relocating to activity-based office, consisted of creating a framework of service design approach to work transformation and the empirical study focusing on bottom-up implementation of workplace change after relocation.

Development project should be considered as a journey where different design activities pro-vided significant milestones along the road. It can be argued that journey was equally or more important than the destination that could be reached within limits of the study. Most im-portantly, development project aimed at providing the case organization with direction and capabilities for continuous learning and adaptation towards transforming its ways of working. This chapter summarized results along the way gathered with service design methods tools. Figure 36 depicts the timeline and design activities of the development project.
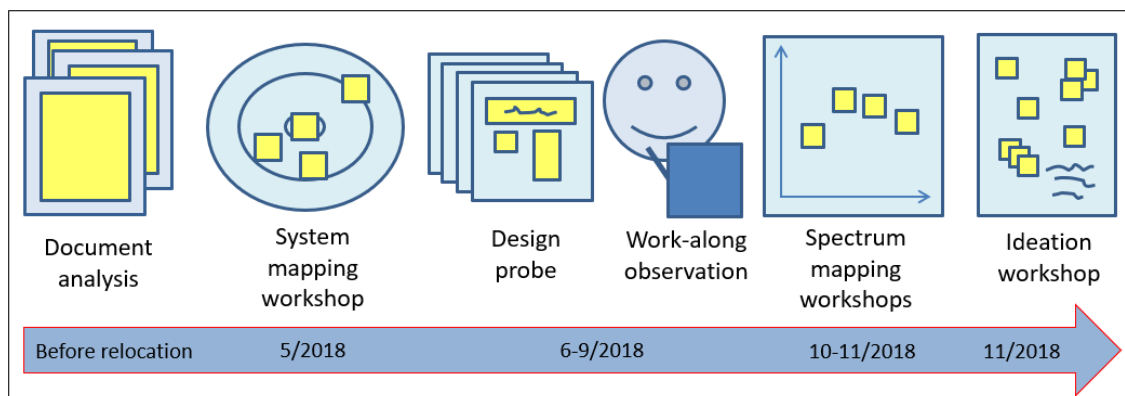
Figure 36: Timeline of different methods and tools used during the development project

The development project covered in thesis work begun with analysis of documents related to planning and formal design stages of that took place before relocation. It was concluded that workplace change project, based on objectives set in Government Premises Strategy, had transformative potential. Focus of implementation after relocation should be in supporting organization to take advantage of more collaborative ways of working that utilizing different workspaces of activity-based office provides. An outline of contents for a complementary participatory service design project for realizing transformative potential of workplace change in context of the case organization was planned by the researcher.

Development project begun in the week before physical relocation took place. Organization members formed system maps in a workshop engaging them into an inquiry to reveal funda-mental assumption that framed their current view of why and how work is performed in the case unit. It was identified that work culture was built on view of work as predominantly indi-vidual. This manifested in individual performance targets and perceived expectation of con-tinuous professional development towards autonomous workstyle. At the same time, it was revealed that organization members formed a strongly tied network with each other. Peer, managerial and group support were crucial in enabling organization members to fulfil their expectations. Findings demonstrated that organization members could find shared meaning and purpose in workplace change by redefining their view of work and recognizing potential

of transforming operations by taking advantage of more collaborative way of working in activity-based office.

Next step of the project begun one month after relocation with a design probe and work-along observation. Assignments were designed to encourage organization members to explore opportunities of activity-based office and self-record their experiences in the new environment. Data was supplemented with observation by researcher. A two-and-a-half months period of data collection revealed that organization members mostly utilized workspaces in the area designated as their "home base" and they rarely switched workspaces during the workday. Emergent ways of working in activity-based office were captured in a set of four persona cards. A defining factor was that acquiring mindset of a flexible worker that resulted with active mobility patterns required conscious effort and a proactive approach towards change.

Five months after relocation members of the organization were engaged in a series of workshops to evaluate validity of activity-based office concept and determine paths for development based on what was learned so far. Design was used as an inquiry to organizational values and norms that dictate desired behaviour. It was determined that supported mobility patterns should be based on specific needs of the case unit rather than principles of the office concept alone. Three viewpoints and developmental opportunities towards continuous adaptation were formed emphasizing different aspects of activity-based work.

Finally, six months after relocation organization members were engaged in a co-creative workshop to ideate actionable solutions that would enable work culture and physical environment to co-evolve into alignment. Different viewpoints were brought together to explore all paths of development. Focus was on create solutions that would support organization members learning to perform together. Three interconnected solutions were created. Developing office rules could provide a tool for gradually shifting work culture towards desired behaviour while retaining freedom of choice. Developing flexible mindset was identified as a skillset that could be cultivated as part of professional development and shifting operations towards more collaborative ways of working. Removing obstacles from physical environment and continuing development of collaborative spaces was identified as a prerequisite for active mobility and enabling shift towards team-based work.

It is only through implementation that design can turn into action and change does not stagnate. It is suggested that all three proposed solutions are implemented simultaneously by the case unit to ensure creation of a stable work culture. Already existing organizational structures such as recurring unit and section level meetings, development days and one-on-one development discussions could be utilized as platforms for ongoing conversations that move organization towards work transformation. It should also be acknowledged that as a result of the workplace change project future now contains new possibilities that did not exist before.

6   Summary and conclusions

Overall aim of the case organization, a decision-making agency in the Finnish government, was to bring New Ways of Working into workplace by relocating to activity-based office. The developmental goal of the thesis was to use service design methods and tools to support implementation of workplace change after relocation in one of the units of the case organization. Results of the development project were summarized in Chapter 5.6. The objective of the thesis was to study how service design can enable using workplace change as a tool for work transformation. This chapter provides answers to research questions, conclusions of the study, evaluation of the study and finally provides opportunities for further research.

6.1   Answers to research questions

The importance of studying service design approach to organizational change in context of workplace change is linked to the global shift towards knowledge driven economy and information society. Thesis aimed to provide valuable information for practitioners working with public and private organizations by showing how service design approach to organizational change can provide long-term improvements in performance of modern knowledge work. The main research question of the thesis was how can service design be used to enable workplace change as a tool for work transformation. Three sub-questions were formed to find information to answer the main research question. Answers to the research questions are provided next based on theoretical part and the empirical case study.

RQ1: When does workplace change have transformative potential?
Answering this question required a comprehensive literature review to understand the link between changing nature of work and work environments. History of office design has shown that the concept of office is under constant experimentation and change. New Ways of Working, capturing social, technological and economic drivers pushing organizations to redesign their approach to work, was discussed as the dominant view during the current era of the networked office. This view is built on the idea of modern knowledge work characterized by collaborative problem solving. It is argued that designing functional knowledge work environment requires understanding the relationship between physical, virtual and social spaces that together constitute the integrated workplace system. These spaces, being interpreted through mental space, are considered as the building blocks of contemporary work cultures. Activity-based office was discussed as a concept for bringing New Ways of Working into workplaces. This office concept strives to support needs of modern knowledge workers through flexible working arrangements. Collaborative nature of work is supported by providing different workspaces that can be utilized by organization members based on their current task.

Workplace change by relocation entails changing physical environment with objective of gaining different kinds of organizational performance improvements. Work transformation is pos-

sible if ways of working are simultaneously subject to change. Transformative potential of workplace change is built on understanding that all design can do is support those changes that work culture is ready for. Based on literature review, three factors were identified that should be aligned to prepare organization for transformative change. Workplace change must be based on a win-win proposition for organization and its members. Objectives should aim at outcomes in both improved performance and well-being at work to motivate organization members towards change. Workplace change must be viewed as an iterative learning process where all outcomes cannot be predetermined. There must be room left for adjustments to align new environment with work culture. A participative bottom-up implementation approach after relocation must be used to support organization members in exploring possibilities of the new environment and to evaluate validity of the office concept. Development must be actively steered to ensure progress towards state where physical environment and work culture can co-evolve into alignment. Otherwise, organization members may reject the transformative change and continue to work as they always have.

In the case study it was observed that transformative potential can be found also in those workplace change projects that are initiated outside of the organization and based for example on a national strategy on government premises. However, in such projects it is particularly important to pay attention to participative implementation approach after relocation with focus on continuous learning to ensure organization wide adaptation of new ways of working.

RQ2: How to support bottom-up approach to implementation of workplace change?
This question was partially answered by literature review and partially by development project. Typical workplace change projects, including the case study, are characterized by a top-down approach to planning and formal redesign stages managed by outside consultants. This is because design of physical environments requires expertise in customizing office concepts that is rarely available internally. Challenge of this approach is that it often results with fixed designs that only support few predetermined use cases and its inability to support subsequent implementation due to constrained resources mostly allocated for the planning stages.

Organizations are increasingly relying on behaviour of individual knowledge workers in making change happen. This has created a need for developing bottom-up approaches for implementation of workplace change after relocation where organization members are supported in translating change into their personal ways of working. Recognizing organization members as co-designers rather than passive recipients of change captures the importance proactive attitude towards change and empowers them in taking initiative in the change process.

In the case study, suitability of service design as a human-centric approach to organizational development and change was studied in context of supporting bottom-up implementation of workplace change. Service design principles, methods, tools and process provided a versatile

solution. Explorative design tools supported a growth mindset and transformed organization members into active enquirers of the new environment who learned through trial and error. Qualitative design methods revealed their experiences, needs and expectations, and provided feedback on issues in the new environment. Collaborative and co-creative workshops brought organization members together to work on finding solutions for adaptation of the environment based on what had been learned so far. The Double Diamond design model (Design Council, 2007) provided a process for dividing implementation workplace change into four distinct phases: Discover, Define, Develop and Deliver. The last phase focusing on implementing created solutions for adaptation was not included in the study.

RQ3: How to build organizational capabilities towards work transformation?
This question is related to the previous one and expands on service design approach to organizational development and change to building a more human-centric organization. Transformative design focuses on innovation of the organization itself. Aim is not only to create a new design solution, but to leave behind tools, skills and organizational capacities for ongoing change. Organization and its members are supported in learning about themselves beyond any one design challenge. Design is used as an inquiry to work culture and to demonstrate value of change by revealing fundamental assumptions, values and norms and showing how these frames the current situation. Organization members are then supported in working together towards an agreed upon vision and to co-create an agenda for change.

In the case study, transformative service design approach to workplace change was studied by combining service design principles, methods, tools and process with complementary organizational change theories and approaches. Service design methods and tools were chosen and adapted to enable an inside-out approach to workplace change that allowed organization members to assign meaning to the new environment beyond physical artefacts and behaviour. Revealing and questioning fundamental assumption of work as predominantly individual demonstrated value of supporting more collaborative ways of working. Evaluating validity of the office concept revealed underlying core value and norm with several viewpoints on where change should take the case organization and why. Following paths for development, based on different viewpoints, built empathy within the case organization and resulted with co-created solutions for supporting organization members in learning to perform together. Altogether, this supported creating an implementation approach focusing on steering co-evolvement of physical environment and work culture into alignment and building organizational capabilities towards work transformation. Implementing proposed solutions to existing organizational structures, which was not covered in the case study, allows for utilizing human-centred tools, skills and capabilities for ongoing learning, change and adaptation.

How can service design enable using workplace change as a tool for work transformation?
Answering the main research question is supported by these sub-questions. The potential of

using workplace change as a tool for work transformation must first be recognized by the organization. This means that both physical environment and ways of working are subject to change with objectives related to organizational improvements in productivity and well-being at work. Service design principles, methods, tools and process are used to support bottom-up approach to implementation of workplace change. Design and other organizational change theories and approaches are combined for an inquiry to work culture facilitating workplace change as a continuous learning process. In summary, service design provides human-centric, multidisciplinary and transformative approach to organizational change that enables using workplace change as means to accomplishing task of supporting organization moving from "old ways of working" to New Ways of Working for the purpose of work transformation. Furthermore, goal of transformative design is not only to create new solutions but to provide organization with tools, skills and capabilities for continuous adaptation and change.

During the case study theoretical framework for service design approach to work transformation was created. The framework is depicted in Figure 8 and its elements are discussed in Chapter 3.5. Part of the framework focusing on implementing workplace change after relocation was tested in the empirical part of the thesis. It can be stated that objectives for the development challenge of the case organization were reached. First, service design methods and tools were studied for supporting bottom-up approach to implementation of workplace change after relocation. Second, organization members were engaged to explore opportunities of the new work environment, to evaluate validity of activity-based office and to co-create adjustments. Whole personnel of the case unit were involved in the project. Engagement was archived by using a variety of service design methods and tools customized for context of the case organization. Background information was collected through document analysis. Organization members self-recorded their experiences in the new environment by completing design probe tasks. Work-along observation was conducted by the researcher. Six workshops were held at different phases of the study on three topics. Qualitative methods and tools used in workshops were stakeholder map, expectation map, empathy map, personas, spectrum map, idea portfolio, impact and effort matrix, idea generation and trigger questions. Finally, workshops facilitated design as an inquiry to work culture. Revealing and questioning fundamental assumptions, core value and norm enabled co-creating solutions enabling organization members learning to perform together. Implementing proposed solutions mobilizes organizational capabilities for ongoing change towards work transformation.

6.2   Discussion

Many organizations expect design changes to bring about changes in ways of working, but all design can do is support changes which the work culture is ready for (Harrison et al. 2004, 59). This thesis work approached this issue from the point of view of transformative service design. Aim was to study and partially test an approach that combined design changes with

design inquiry to work culture expanding organizational capacity towards change. A novel framework for service design approach to work transformation was created during the thesis process. The framework is depicted in Figure 8 and its elements are discussed in Chapter 3.5. Elements of this approach were not yet well defined and additional studies was are needed in this field. The framework aims to fill the gap in the literature by showing how service design approach to organizational change can be used in context of workplace change.

The framework combines main elements of the thesis. Ongoing transformation to Knowledge Age and specific needs that must be supported in the new age are captured by New Ways of Working and activity-based office concept. Overall process of relocation as a planned change initiative is considered by dividing process into stages of top-down planning and 1st formal redesign before relocation and bottom-up 2nd informal redesign and learning to perform to-gether stages after relocation (van Aken, 2007). Recognizing the importance of behavior of individual organization members in making change happen, focus of the framework is in sup-porting the bottom-up implementation and change process after relocation. At the core of the framework is the Double Diamond design process model (Design Council, 2007) that pro-vides a platform for using service design methods and tools during the workplace change pro-cess to explore the new environment, evaluate its validity and co-create adjustments. Job crafting (Wrzesniewski & Dutton, 2001; Demerouti et al., 2001) provides tools and strategies to explore opportunities of activity-based office individually and collaboratively. Facilitating change process as a progressive series of conversations (Ford, 1999) enables design as an in-quiry to organizational culture (Junginger & Sangiorgi, 2009) by questioning fundamental as-sumptions, norms and values that frame the current situation. This can support organization members to form shared vision and agenda for change towards work transformation where physical environment and work culture can co-evolve into alignment. Moreover, goal of trans-formative design is not only to create new solutions but to provide organization with tools, skills and capabilities for continuous adaptation and change (Burns et al. 2006, 21).

Office as a design concept is highly contextual to a specific time and place and has been un-der constant experimentation and change (Parker 2016, 178; van Meel 2000, 164). Framework constructed in this thesis should be viewed from contemporary lens of modern knowledge work considered as collaborative problem solving. It focuses at bringing New Ways of Working into workplace by relocating to activity-based office. In this view, modern work environment is conceptualized as an integrated workplace system, where physical environments, technolo-gy, work processes and cultural aspects together support objectives of the organization (Skogland 2017, 62). Physical, virtual and social aspects of work are considered as the three interlinked spaces of knowledge work environments (Haapamäki et al. 2010, 13). Vartiainen (2009, 1095) introduced concept of mental space as the fourth space though which organiza-tion members interpret the other three spaces. The author of this thesis proposes that service design approach to work transformation is closely related to concept of mental space. Service

design can provide methods and tools for creating a shared mental space and unlocking possibilities and opportunities inherent in the other three spaces as building blocks of modern knowledge work culture. Figure 37 visualizes how service design can bring mental space in the intersection of virtual, physical and social spaces further solidifying their interlinked nature.
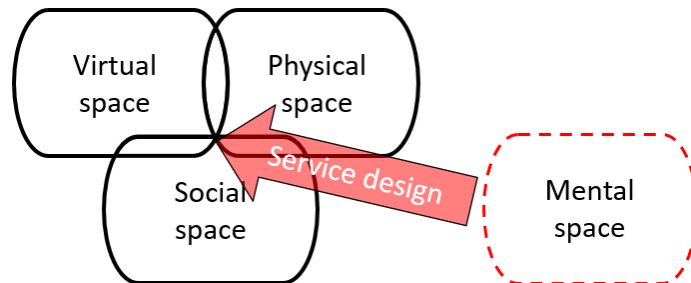

Figure 37: Transformative service design can impact interpretation of the other three spaces through creating a shared mental space (adapted from Haapamäki et al. 2010, 13)

The proposed framework building on service design approach to organizational change can benefit any public or private sector organization that is looking to use workplace change as a tool for work transformation. Many organizations today are familiar with service design in its original interpretation as an approach for developing innovative services (Kurtmollaeiv et al. 2018, 59). Service design as an approach for overcoming challenges of multi-layered transformations where organization is required to change both its processes and underlying mindset (Calabretta et al. 2016, 91) is not yet as well known. It can be argued that proposed service design approach to organizational change can not only enable using workplace change as a tool for work transformation but also as a tool for building or expanding service design capabilities resulting with wide-ranging benefits of creating a more human-centred organization such as increased customer-centricity and breaking of organizational silos.

The author of this thesis held roles of a researcher, a facilitator and a colleague during the thesis project. Role as a researched has been the most enduring one covering designing the case study, conducting a literature review and writing the thesis report. Role as a facilitator provided an opportunity to implement service design methods and tools in practice in six workshops. Role of a colleague had both benefits and potential conflicts. On one hand, it considerably helped with logistics of the study by making arranging and conducting design activities easier. On the other hand, it conflicted with the role as a researcher and forced author to be aware of possible biases that could be introduced to the study. It can be concluded that as a sum of his other roles the author also assumed a role of a change agent.

6.3   Evaluation of the study

Evaluation of the study provides an opportunity to reflect thesis work from several different perspectives. Four topics of evaluation are discussed. Quality of the case study considers va-

lidity, limitations and biases of the study. Feedback from the case organization was gathered to evaluate some of the participative methods used during the study and feasibility of results. Framework and combination of elements are then discussed. Finally, progression of the study provides researcher's reflection of the study process.

Quality of the case study

This research has been done according to a case study research approach. Yin (2003, 33-39) identifies four tests to evaluate the quality of case studies. *Construct validity* refers to establishing correct operational measures by for example using multiple sources of evidence to confirm study findings. In this study, different service design methods and tools were used to collect different types of data including document analysis, design probe, participant observation and co-creative and collaborative workshops. *Internal validity* is only a concern for causal case studies, where researcher is determining whether one event lead to another. No such causal links were explored in this study. *External validity* requires considering whether study findings are generalizable beyond the immediate case study. A framework combining different organizational change theories and approaches was constructed that can be used to generalize the study. *Reliability* refers to minimizing errors and biases in the study by making it possible for others to track what has been done during research. This has been reached through a detailed description in the study report and by maintaining a chain of evidence.

Lincoln and Guba (1985, 300) present four criteria for assessing trustworthiness of qualitative research. *Credibility* refers to producing conclusive findings and interpretations. In this study, pro-longed engagement was used to learn the context of the study, minimize distortions from the data and built trust with participants. *Transferability* refers to demonstrating that findings are applicable to other contexts. In the study report, thick description of contextual factors was used to provide necessary information for making it possible for readers to consider possibility of transfer to their situation. *Dependability* refers to possibility of others to replicate the study and reach consistent results. In the study report, a detailed account was provided on the study process and findings for reader to be able to develop a thorough understanding of the methods and their effectiveness. *Confirmability* refers to demonstrating neutrality of study findings. In the study report, an audit trail was provided by explaining decisions made during the study process and providing examples of gathered and processed data.

Some limitations to the study should also be noted. Study was based on a single case study with a very specific context. Service design methods and tools used are highly contingent of the context in which the thesis framework is applied. Study was performed in one unit within a Finnish state organization. Considering that cultural aspects can vary even between departments of the same organization (Ekstrand 2016, 287-288) let alone between organizations, results of the development project should not be generalized as is but rather only be considered as recommendations for the case unit of the case organization. Another limitation

of the study is that it did not include implementation phase. It cannot be therefore confirmed to which degree proposed solutions manage to impact work culture towards desired outcomes. Recommendations for implementation were provided to the organization.

It is also important for researcher to articulate their personal biases and how it has been attempted to mitigate the potential effects of those biases (Hancock & Algozzine 2006, 67). Some such biases were recognized during the study. First, researcher was also an employee in the case unit during the case study. This means that he was personally impacted by change process and its results. He was also involved in change efforts prior to relocation as a participant and had formed his own opinion regarding to workplace change. Researcher acknowledged this situation by explaining to the case unit that project was part of his studies and that he assumed a role of a neutral researcher. Researcher also refrained from taking part in any of the design activities as a participant. Work-along observation was used as one of the data collection methods that in part allowed researcher to examine his possible biases or taken for granted ideas in a structured way. Having previous knowledge of the organization can also be considered as helpful in constructing the study process. Researcher was not in a position in the organization to make any decisions regarding in what capacity results of the study will be implemented.

Feedback from the case organization

Feedback from organization members of the case unit was collected at several points during the study. Anonymous feedback was collected from participants after first workshop taking place 9th of May) and final workshop 22th November 2018 via a web survey sent a couple of days after the event. Participants in design probe were asked to give feedback on content. Management was asked for feedback after empirical part of the study was completed.

Workshops received both positive and negative feedback. Positive feedback included providing opportunities for thought provoking discussions on a very timely topic together with other organization members. On the other hand, some participants felt that they did not personally benefit from contents of the workshop or they felt unsure whether results will be implemented. Overall, feedback at the beginning of the process was more enthusiastic than in the end. Some participants of the final workshop voiced their feelings that relocation had received enough attention already. Workshops were perceived as fairly demanding by some. Researchers role as a facilitator and a colleague was perceived as both positive and negative. Some saw it as a positive effort while in one feedback it was concluded that outside consultants may have been able to provide more of an "out of the box" view.

Design probe received generally positive feedback from participants. Assignments were perceived as useful and comprehensive. A poignant feedback expressed was that, in the spirit of New Ways of Working, it should have been possible to carry out assignments electronically.

Research in fact begun with this idea in mind but concluded that some of the tasks were too complicated to realize in digital format and ultimately chose to settle with paper printouts.

Feedback was asked from management of the case unit after development project was finished. It was concluded by the management that project was a necessary and complimentary effort to previous planning stages performed on organizational level before relocation. Effort of tailoring the case study to the context of the case study was perceived as particularly valuable. The project provided tools for getting familiar with the new environment and opportunities to evaluate progress of change and to ideate solutions for further development. Some of the results were forwarded to steering group for consideration of being implemented on organizational level.

Theoretical framework and combining of elements

Theoretical framework for service design approach to work transformation developed during the study and depicted in Figure 8 combines various organizational change theories and approaches. Elements of the framework are discussed in Chapter 3.5. Part of the framework focusing on implementing workplace change after relocation was tested during the empirical part of the study. Some critical remarks must be made on assumptions and limitations present in the framework.

One of the demarcations made by the researcher was to divide workplace change into periods before and after relocation. Focus of the framework is in using service design to support a complementary bottom-up approach to implementation after relocation following a top-down planning and design stage managed by outside experts. This division may appear contradictory to the principle of service design of involving stakeholders in the design process as early as possible (Meroni & Sangiorgi 2011, 203). Researcher argues that it is recommended to use participative design methods already in the planning stages in support of customizing the office concept according to needs of the organization. However, from the point of view of creating organizational change, decision to focus on period after relocation is supported by earlier research that underline importance of implementation in steering cultural change (Ekstrand 2016, 291-292), findings indicating that reassessment and adaptation to the new situation can only begin once in the new environment (Inalhan 2009, 27-28) and view of planned organizational change as a series of stages where 2nd informal redesign by organization members is ultimately always done in relation to their own work (van Aken, 2007, 76).

In addition, the proposed framework might not be applicable in every situation. It is based on assumption that workplace change has transformative potential. This may not always be the case. For example, choice of the office concept may be based on wrong assumptions of its potential to support operations of the organization (Vos & van der Voordt 2001, 52) or objectives for relocation may not provide a genuine win-win situation for organization and its

members (Bakker et al. 2011, 85). For instance, activity-based office concept has been criticized for focusing on cost reduction and operation cost management despite of claims of advancing well-being at work (Parker 2016, 177). Researcher assumes that value of the framework for creating organization change in such cases would be limited by the inherent lack of ambition of the workplace change project. However, some elements of the framework, such as job crafting (Wrzesniewski & Dutton, 2001; Demerouti et al., 2001), could still be beneficiary in providing tools and strategies for organization members in coping with change.

Progression of the case study

The case study followed phases of the Double Diamond design model (Design Council, 2007). Study included Discover, Define and Develop phases. Deliver phase was not included. Process model proved to be well-suited for needs of the development challenge and the overall thesis framework. An interesting challenge in the study was finding combinations of service design methods and tools that simultaneously supported multiple goals of bottom-up approach to implementing workplace change, facilitating conversations and collecting data for the case study. Divergent and convergent phases of the design process supported changes of pace and focus of methods and tools utilized.

Empirical part of the study that involved members of the case unit in design activities spanned across six months period. This has provided both advantages and challenges. Half-an-year timeframe provided researcher with time for planning and analyzing data in between phases of the design project. Natural progression of time also brought more lessons learned in the new environment along the way for organization members adding depth to conversations and reflections. A challenge was that by allowing significant time to pass between design activities it was more difficult to maintain momentum of the development project. For example, facilitating change as a series of progressive conversations would have benefited from pace for progress not to stagnate.

Logistics of the study benefited from the researcher working in the case unit for the duration of the project, because it was easy to agree on timetable and locations. However, two of the workshops had around 60 participants each, which made them challenging to manage. This seemed to work quite well in the first workshop for creating system maps, but it was too many for the ideation workshop. It would have been beneficiary for the facilitator to be able to take a more active role in controlling energy and flow of each individual group. In general, enough time was received for all workshops. Notably, all organization members were invited to take part in each of the workshops and attendance levels remained high.

Developing contents of the design probe at the early stages of the empirical study was considered by the researcher as one of the highlights of the study process because it allowed for creatively combining different tools and customize them to the context of the case unit. De-

sign probe turned out to be successful methods for qualitative research by producing a rich set of data and participants had clearly put a lot of effort in completing the assignments. At the same time, based on number of returned probe kits, only one quarter of members of the case unit elected to take opportunity of the design probe as a tool for learning to use the new environment. This was lower rate than what the researcher had hoped for.

6.4   Further research

Several prospects for further research were uncovered during the study process. Two such topics were discovered in design probe data that fell outside scope of thesis work. Working remotely from home was identified as an important aspect of how organization members perceived their flexibility. Even though some might describe themselves as "Anchors" while in the main office, they considered themselves as flexible overall when working for home for as much as a couple of days per week. This aspect of New Ways of Working is somewhat lost in research on activity-based office concept which focuses on mobility patterns at the main office. It would be important to study further the impact that increased possibility of working remotely has for the consideration of transformative potential of a workplace change project.

Another theme brought up in design probe data was increased importance of virtual channels in communication between organization members. While this is recognized as a key feature of digital space enabling collaboration over time and place, it too is somewhat lost in context of the main office. Much of the thinking behind activity-based office is based on enabling face-to-face interaction and chance encounters. However, many observed that virtual channels such as an instant messenger were increasingly important communication channels even when all parties were physically present in the main office. It would be important to study further whether this adds or detracts from the overall functionality of the office concept since it can be viewed as both increasing collaboration but also as further decreasing mobility.

Finally, it should be noted that focus of activity-based office on mobility patterns and enabling collaboration may detract from other human-centric design considerations. Gorgievski (2010, 207) points out that there is a conflict between standardized workspaces and universal human needs such as the need for a place of one's own, privacy, identity, status and the ability to arrange work environment to suit personal needs. Harris (2015, 428) argues that in order to enhance work performance, arrangements should be made for the preferences of those with different psychological needs including variations in personality such as introversion and extroversion. Erlich and Bichard (2008, 283) conclude that inclusive design should aim at finding solutions for all ages of the workforce and their special needs. Impact of such considerations for balancing objectives of workplace change projects should be further studied to ensure their transformative potential.

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Figures

Tables

Appendices

Appendix 1: Step by step instructions to system mapping workshop

Appendix 2: Office rules

| Zone	Purpose	Rules
Individual work zone	Individual work	- Discreet conversations are allowed - Phones must be on silent, but you can answer and talk briefly. - If discussion is prolonged, you must move to a Study Booth or Collaborative work zone
Collaborative work zone	Individual and collaborative work	- You can discuss freely, make phone calls and take part in video conferences. - Customer facing phone calls are made here during service hours
Silent work zone	Individual work requiring high level of concentration	- Keep your phone and computer silent - You can use messaging service to communicate whether you are available to be disturbed
Study booth	Confidential discussions, phone calls and video conferences	- For temporary use only - Immediately fee the space when you are finished for use of others - Booths cannot be reserved - Suitable for confidential phone calls and video conferencing
Project room	Collaborative work requiring a lot of space	- You can reserve space electronically for up to one month - You can leave materials to room - When room is not occupied it can also be used for other purposes
Working cafe	For relaxing, eating and working on computer	- You can discuss freely - Be mindful of others breaks, official work meetings should be held elsewhere - Keep the space and clean

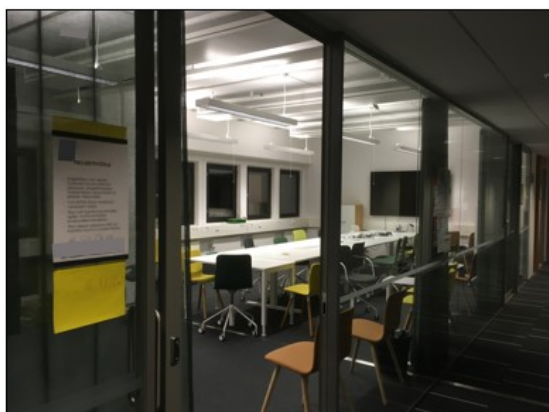Appendix 3: Workspaces in the case unit's home base

Silent work zone
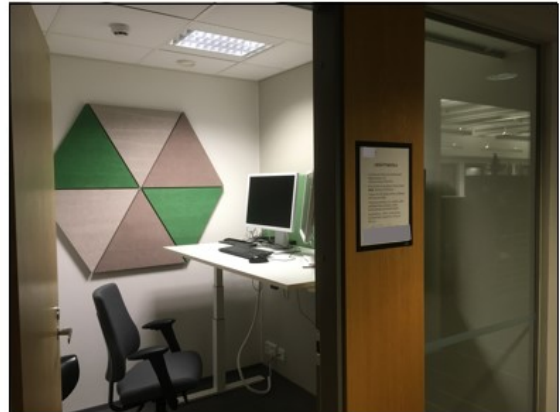
Study booth
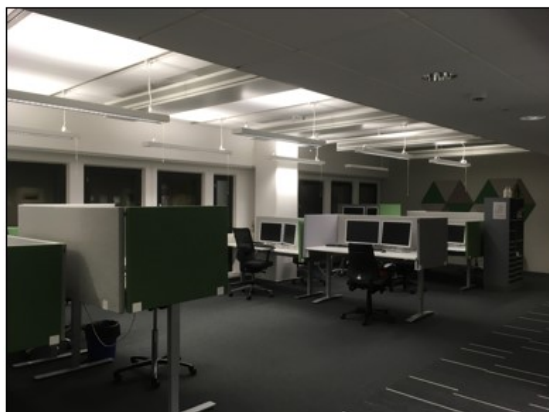
Individual work zone
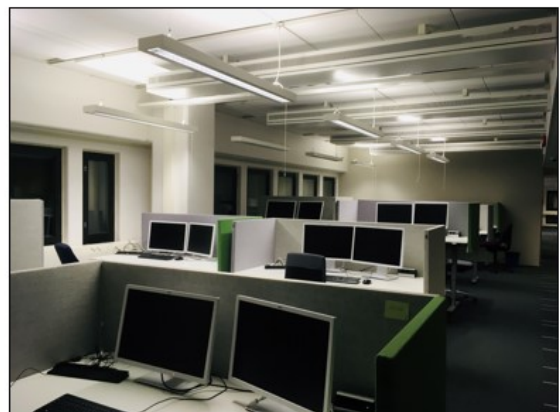
Collaborative work zone
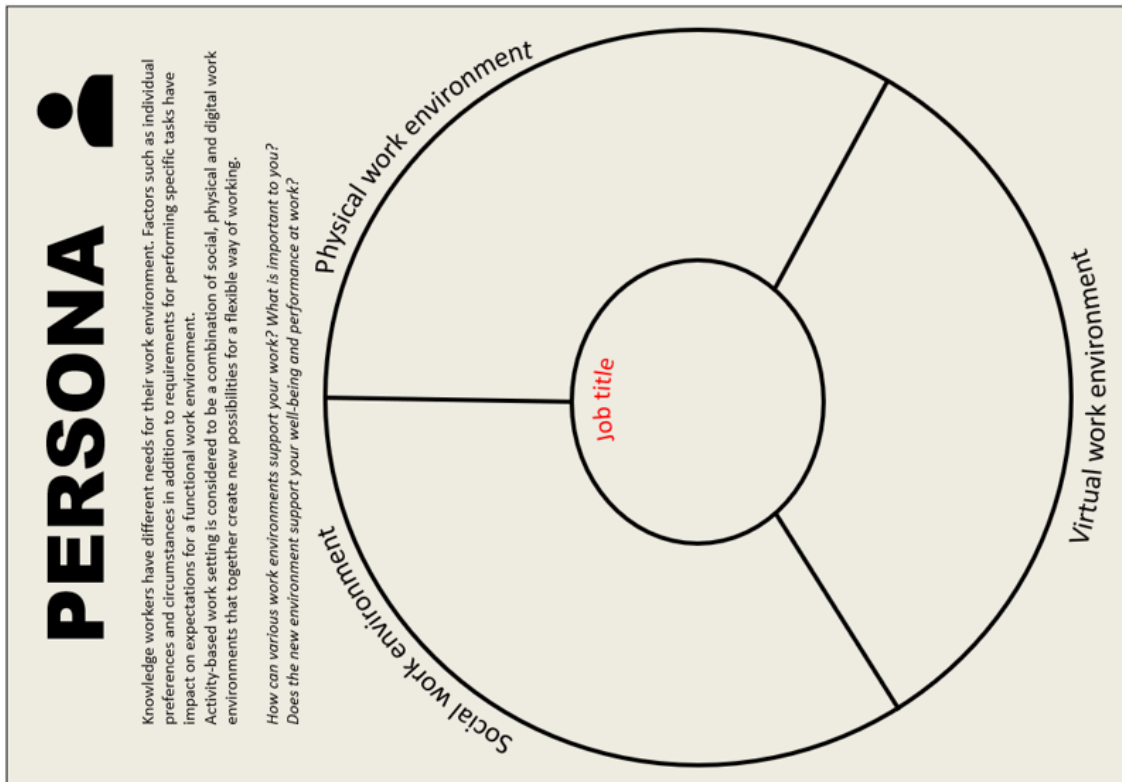

Project room

Working cafe

Appendix 4: Design probe assignments

PERSONA

Knowledge workers have different needs for their work environment. Factors such as individual preferences and circumstances in addition to requirements for performing specific tasks have impact on expectations for a functional work environment.

Activity-based work setting is considered to be a combination of social, physical and digital work environments that together create new possibilities for a flexible way of working.

How can various work environments support your work? What is important to you?
Does the new environment support your well-being and performance at work?

Physical work environment

Social work environment

Virtual work environment

Job title

WELCOME TO DESING PROBE!

Relocating to activity-based office is a learning process. This journey has just begun for you! A curious mindset is needed to discover different possibilities that new environment can offer, and to eventually make it our own. By collecting your individual experiences, we can together develop new ways of working and best utilize benefits of activity-based work.

Design probe is a method of user-centric development that aims to encourage active exploration of work environment by offering small exercises. This design probe is focused on key dimension of knowledge work, and it's purpose is to help you in crafting an approach to activity-based work that best fit your needs and preferences. At the same time, data is collected to identify further development possibilities, and to form a shared understand of what activity-based work means for us.

Unlike regular questionnaires, design probe is not meant to be fulfilled at one sitting, but rather you are encouraged to take time with exercises, and fill them in little by little, according to your own schedule and pace. You can interpret exercises in a way that is most beneficial to you, or skip some over if you don't find them beneficial for you. Each exercise has a short introduction and instructions that are there to help you get going!

Taking part is voluntary and anonymous,
but remember to add your job title in the first exercise!

You can return completed design probe at any time, but no later than 31.8.2018.

THANK YOU FOR
YOUR PARTICIPATION!

REMOTE WORK 📶 SWOT MATRIX

Technological advancements have made work anywhere and any time possible: 'All you need is a laptop and internet connection'. It's of course more complicated than that in practice, as nature of work and personal circumstances have an impact on our ability to work remotely.

Reflect on both positive and negative issues related to your personal remote work experiences. Is your work suitable for remote work? Do you have access to suitable space for remote work? How about tools? Do you need access to paper files? Is social work environment supportive of remote work? Do you need more practice in utilizing virtual work environment?

STRENGHTS	WEAKNESSES
OPPORTUNITIES	THREATS

ACTIVITY-BASED BINGO

One of the biggest opportunities of activity-based work is that, no longer 'chained to a desk', knowledge workers have the flexibility and freedom to choose between various spaces to work at.

To get most out of the possibilities of the work environment, you should not be content with using the office in a routine manner. Instead, you can make your workdays more enjoyable by utilizing different spaces at different times based on your tasks, preferences and mood.

Use this bingo coupon to help design your workdays and to make sure you are not missing out on any of the spaces. You can keep a record to track if some spaces get more usage than others.

STUDY BOOTH	COLLABORATIVE WORK ZONE	SPARE ROOM
REMOTE WORK	INDIVIDUAL WORK ZONE	SILENT WORK ZONE
PROJECT ROOM	NETWORKING HUB	WORKING CAFE

AVAILABILITY

In the workshop held in May, where needs and expectations of the unit were determined, availability of peer support and access to other key people within the unit for interaction and collaboration were identified as key factors for maintaining a high level of work performance.

Has the need for access to others been fulfilled for you in activity-based work environment? How do you yourself make sure you are available for others who might need you?
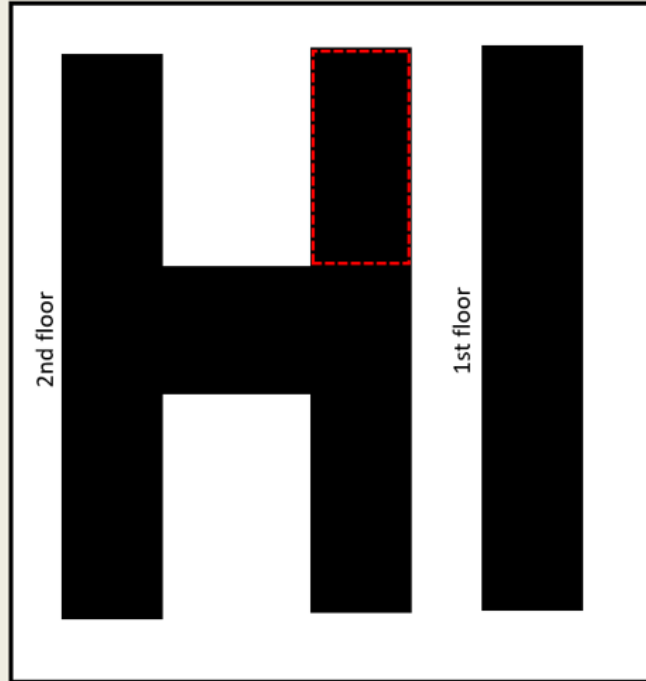
Has importance of different communication channels changed in new work environment? How does different spaces affect availability? How about remote work? Has the importance of pre-planned meetings or spontaneous meetings changed in activity-based work?

DIARY OF SELF-LEADERSHIP

Knowledge workers are increasingly able to work free of constraints of time and space. At the same time, we knowledge workers becoming increasingly responsible for managing their own work. Planning ahead can enable you to maintain a healthy work-life balance. On the other hand, remote work can also blur the lines between fork and leisure time.

For a couple of days, keep a diary on things you take into consideration when planning your workdays. What are the key issues your week is built around? Do you have enough flexibility in your choices? How do you fit individual work and shared activities (e.g. meetings) together? Which tasks are better suited for office and which can be performed remotely?
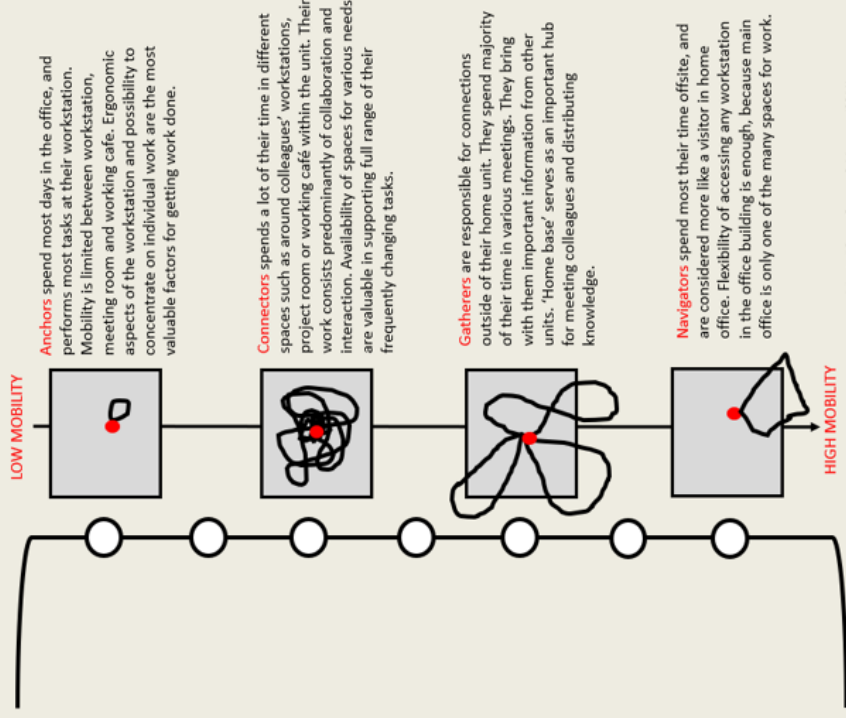
MOBILITY PROFILES

Being increasingly mobile is considered as one of the defining characteristics of knowledge work organisations. Concept of activity-based work is largely based on this premise. In practice, different work patterns result in different mobility profiles for knowledge workers.

Reflect upon your level of mobility and mark which user profile first you based on descriptions. Does working remotely make a difference in how you view your mobility? Has switching to activity-based work improved your mobility?

LOW MOBILITY

Anchors spend most days in the office, and performs most tasks at their workstation. Mobility is limited between workstation, meeting room and working cafe. Ergonomic aspects of the workstation and possibility to concentrate on individual work are the most valuable factors for getting work done.

Connectors spends a lot of their time in different spaces such as around colleagues' workstations, project room or working café within the unit. Their work consists predominantly of collaboration and interaction. Availability of spaces for various needs are valuable in supporting full range of their frequently changing tasks.

Gatherers are responsible for connections outside of their home unit. They spend majority of their time in various meetings. They bring with them important information from other units. 'Home base' serves as an important hub for meeting colleagues and distributing knowledge.

Navigators spend most their time offsite, and are considered more like a visitor in home office. Flexibility of accessing any workstation in the office building is enough, because main office is only one of the many spaces for work.

HIGH MOBILITY

Adapted from: Greene & Myerson (2011)

MAPPING ACTIVITY-BASED OFFICE USE

Physical work environment should support both individual and collaborative work, and in general be functional for the kind of work done in the organisation. Mark on the map your use pattern of the new environment comprising of areas, zones and workstations that are most supportive for your work. Unit's 'home 'base' is marked on the map as a red square.

Where do you prefer to work on a typical day? Area some areas more supportive for interaction than others? Have some areas remained foreign to you for some reason? Where do you find a combination of zones that best fulfils your needs?

2nd floor

1st floor

FEEDBACK BOX

Here you can express your feelings regarding relocating to activity-based work in any way you want. You can for example write, draw, or add a picture! You can also write down insights that have not come up in other exercises, and give feedback on this design probe.

TEMPORARY FIXES

Humans are crafty at discovering workarounds to practical issues they face at work. It oftentimes feels easier to find a temporary fix and continue working, rather than finding a more permanent solution. At the same time, these situations offer opportunities for developing the working environment to better meet our needs, and they should be seized!

Write down needs for adjustments and improvements you have discovered in the office!

Appendix 5: Step by step instructions to spectrum mapping workshops
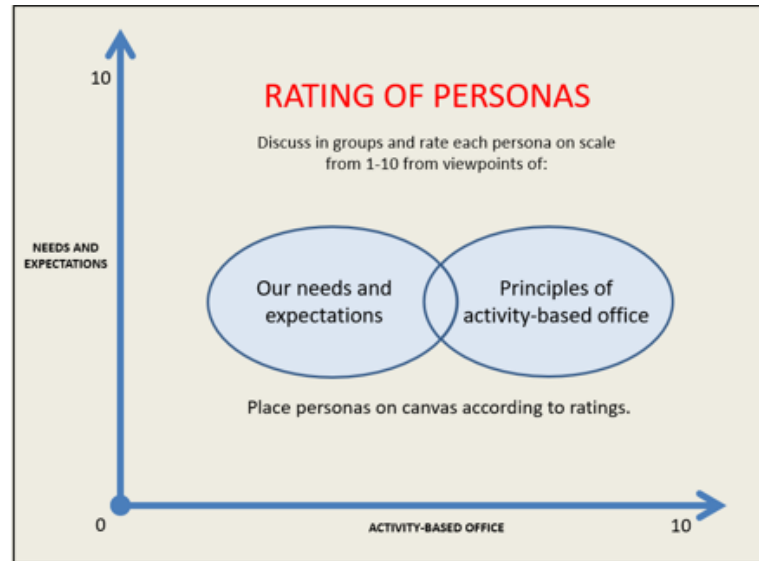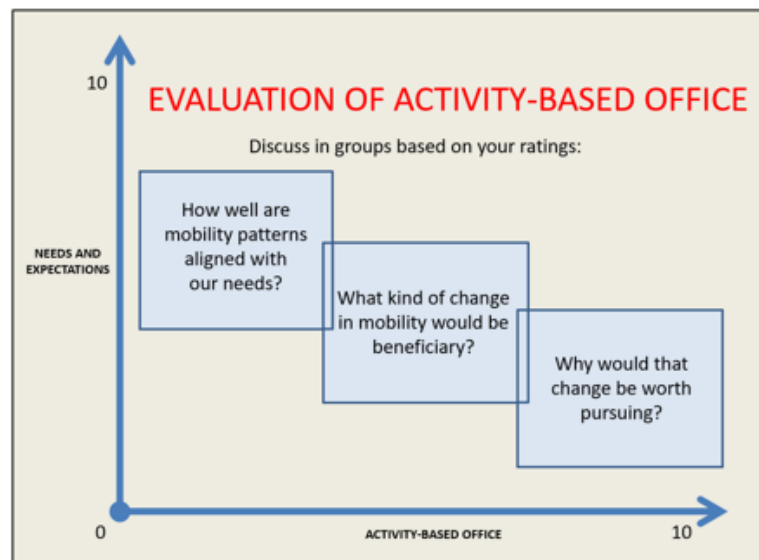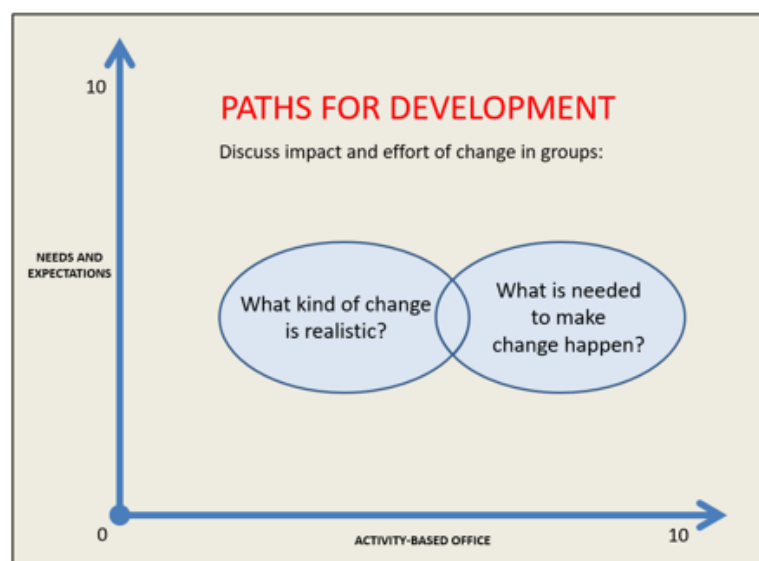
Appendix 6: Themes for ideation workshops