



Summary of pilot cases

New ways of working

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Abstract

This report is summary of the pilot-phase of the NewWoW project. The report introduction presents shortly the project and the content of project in general. The six categories of new ways of working state-of-the-art report are presented in one picture.

The objective of the whole NewWoW project is a set of eight research questions and five scientific goals. The total of six pilots have been selecting at least one research question and one scientific goal to qualify as project pilot. Also the “productivity task” of the project is presented side by side with pilots because of the important role in piloting and representing as a whole one of the research questions. The pilots and their relation to these objectives is summarized in one picture.

The Pilots section is presenting the as individual extended summary in separate chapters. The chapters include the Pilots individual results or discussions highlighting the structure and the results based on the piloting partners choice.

The last section is a compacted lessons learned of all the pilots replacing replacing the usual discussion. The lessons learned is a summary of all individual pilot representatives made in a workshop discussion. The final result of the common lessons learned is presented in one picture and short text of twelve main identified problems a sequence of: “1. identified problem, 2. proposed solution, 3. expected impact, 4. how to measure”. The list is divided in the categories of “people, business, process, technology” with problems categorized respectively.

Keywords

New ways of working, knowledge work, productivity, engagement, downshifting

Preface

This report is a part of NewWoW project (2011–2014) as a work package in the Pre Engineering Research Program funded by RYM SHOK. Research program creates the means how the Real Estate and Construction cluster can serve as a new enabler of other industries' growth and development by bringing solutions to manage, support and speed up the change all industries are facing.

The goal of NewWoW research is the creation of concepts, implementation management models, and key metrics for high-performance and sustainable new ways of working.

Industry partners are Rapal Oy (project leader), Granlund Oy, ISS Palvelut Oy and Senate Properties.

The Research partners are VTT Technical Research Centre of Finland and Tampere University of Technology (TUT).

The subcontractors for the project were Stanford University and Optimize Inc¹.

¹ At the time of project activities the company name was Co3 Group Ltd, but Optimize Inc. is used in the report.

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1. Introduction

This report is summary of the pilot-phase of the NewWoW project. The three main phases are state-of-the-art, concepts and pilots. Also tasks of sustainability, mobile technologies and utilisation of BIM are involved in in the project. However, all the actions are practically connected to the pilots. In the NewWoW project state-of-the-art report (Aaltonen et al. 2012) is stated:

“...previous workplace and knowledge work projects have used various definitions for spaces, places as well as work itself. Furthermore, there are definitions for both physical and virtual ones. It is also stated that present knowledge work relies on communication, cooperation and collaboration. The variety of definitions brings out the fact that knowledge work is not only complex but also keeps changing constantly.”

The state-of-the-art report categorizes all the terms found in total of six parts instead of the default three being physical, virtual and social. The following figure (Figure 1) of the categories was presented in the report.

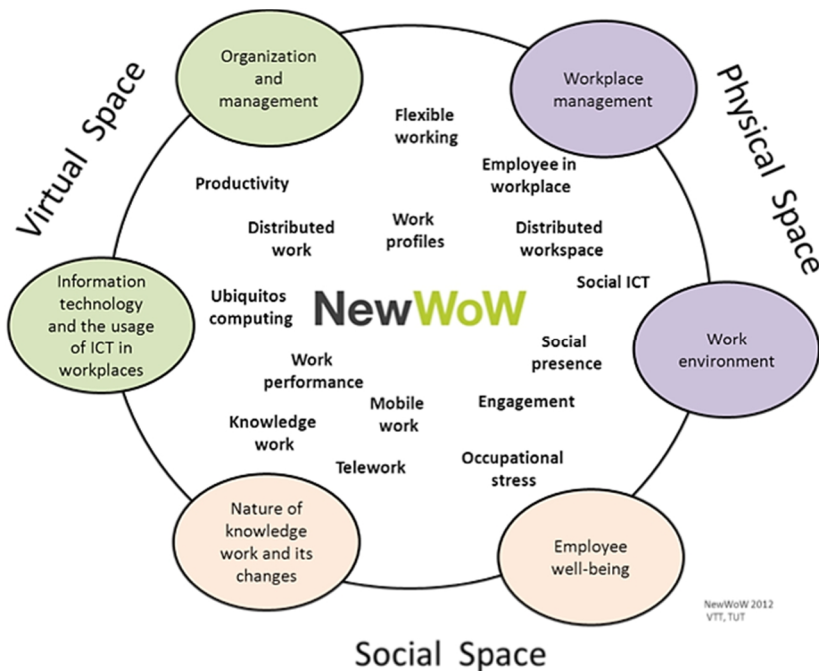


Figure 1. The categories of the NewWoW (Aaltonen et al. 2012).

The NewWoW pilots are each presented shortly later in this summary report. The pilot activities as well as the findings are covering practically all of the six categories of the previous picture.

1.1 Objectives

The objective of the pilots was to test in practice both the findings in theories as well as follow the piloting companies strategic plans e.g. supporting new ways actions or create new services. The PRE program also includes R&D projects for each company parallel to these pilots.

The pilot objectives are thus inspired by research and focused along the company strategies. The pilot activities are in practice very conventional. The innovations are supposed to take place in new combinations of lessons learned leading to new solutions.

1.2 Research questions and scientific goals

The original project plan included five scientific goals (S1–S5) and seven research questions (Q1–Q7). However, during the project it turned out that a question of social environment leading to a final number on eight questions (Q1–Q8).

Research questions

Q1: What are the work requirements that are based on business success factors and key performance indicators? (Connected to Goal S1)

Q2: How do the ways of working and workplace arrangements affect productivity positively/negatively? (Connected to Goal S3)

Q3: How can work requirements be turned into strategic guidelines? (Connected to Goal S1)

Q4: How can the required change be managed and maintained? (Connected to Goal S2)

Q5: What is the relationship between building performance and work performance? (Connected to Goal S1)

Q6: How new ways of working support sustainable development and decrease environmental impacts? (Connected to Goal S4)

Q7: How BIMs support management of sustainable facilities that support new ways of working (Connected to Goal S5)

Q8: What factors of social environment enhance or disrupt knowledge work?

- on individual level
- on team level
- on organizational level
- on the level of the society.

Scientific goals:

Goal S1. To develop methods for the definition of work requirements and work profiles.

Goal S2. To develop methods for the management of choice processes from the viewpoint of space management, taking into account the end user perspective.

Goal S3. To develop the reliability of methods that assess the productivity of knowledge works.

Goal S4. To develop comprehensive understanding about the sustainability and especially environmental potential of new ways of working with the focus on spaces, knowledge work and usage of ICT solutions.

Goal S5. To develop and describe new solutions for the management of new ways of working and spaces with help of building information models by integrating new kind of assessment models and performance indicators to these models and by improving the use of the models during the stages of use and maintenance.

1.3 The use of the research questions in pilots

The pilots were supposed to cover one or more research question in order to qualify as project pilot thus adding piece information for the project. The following picture (Figure 2) shows the scattering of the questions within the pilots.

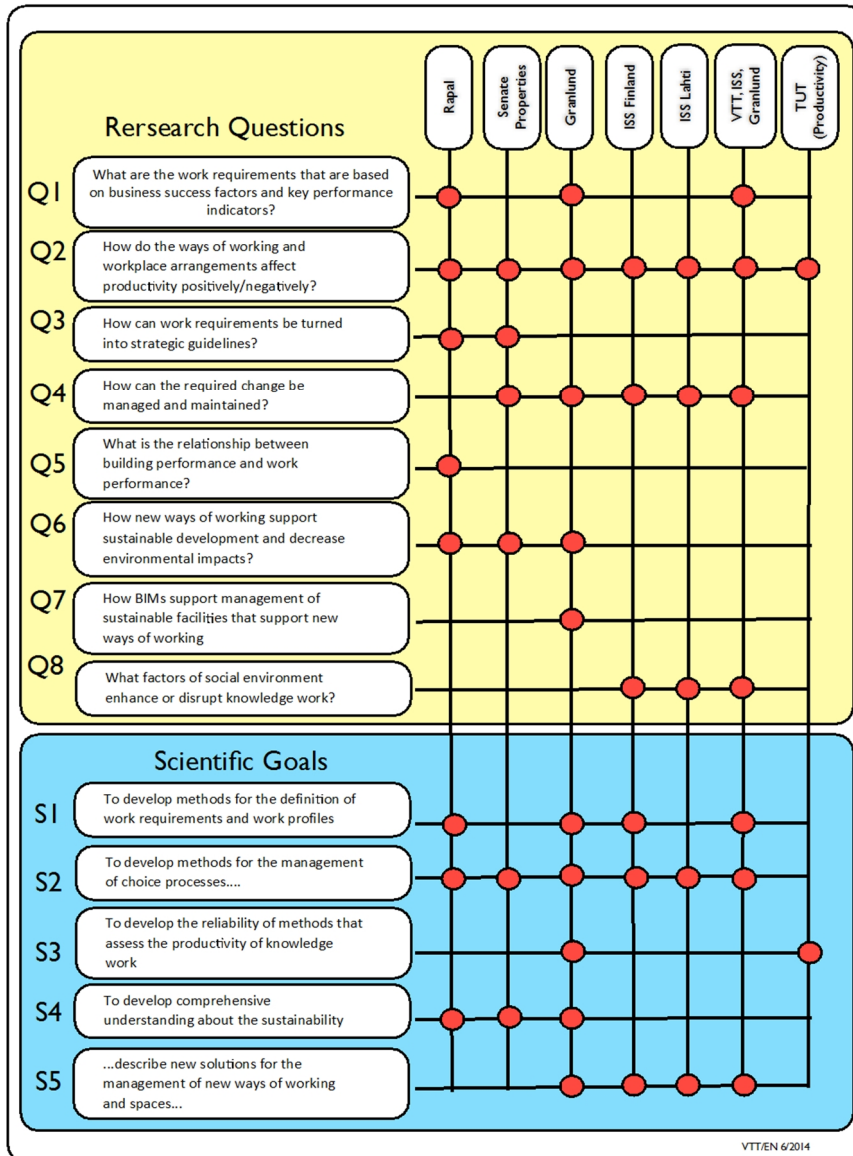


Figure 2. The list of the research questions and scientific goals in all pilots.

2. The pilots

The pilot descriptions of this chapter are individual extended summaries written by each pilot organisation point of view. The pilot summaries are highlighting the main objectives as well as lesson learned or results short. The pilots' results can be found in books in reference list as well as via comprehensive list of "Further reading" in the end of this report.

2.1 Rapal pilots

Optimize.net snapshot

An all-inclusive service to guide decision-making in work environment development

Rapal participated in the RYM SHOK New Ways of Working research project in order to explore what information is needed to guide fact based decision-making in work environment development. We developed, tested and evaluated different tools and methods focusing especially on different space utilization measurement techniques. Space utilization measurements provide an organization with a good understanding on how its space is actually used and what is the potential for improvement. This information is crucial when an organization wants to understand the current state of their work environment but also, or even more crucially, when considering changes in their work environment. We tested these different tools and methods within our own organization as well as with five pilot organizations, of which four are members of the RYM SHOK NewWoW work package.

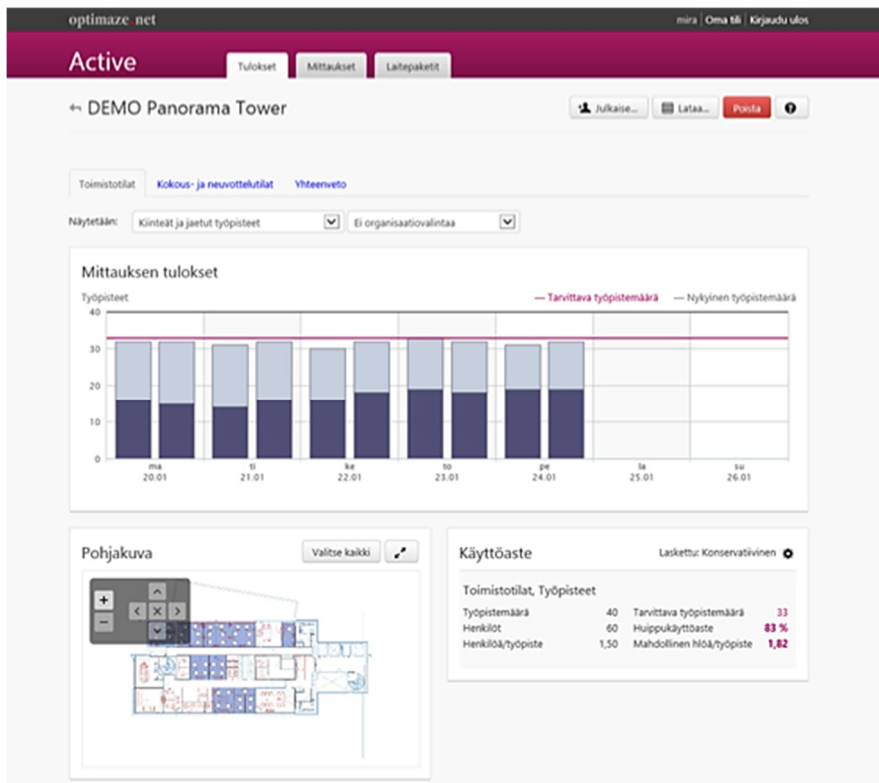


Figure 3. Space utilization measurement with optimaze active.

While space utilization rates turned out to be a useful eye-opener for the management, they do not tell you why space is used as it is. If we want to harvest the potential of inefficient space use we must look into other factors than just utilization rates. We must understand how people work and should work, how they collaborate and use technology and how all these areas could be improved to make a more sustainable work environment- one that support business goals, where employees thrive and that is environmentally sound.

In order to gain this understanding we found that it is useful to combine the space utilization measurements with other data including information on key performance indicators (sqm/ppl, costs/ppl, CO₂/ppl), employees' ways of working and collaboration as well as their well-being and productivity. By combining and cross-analyzing data collected through these different methods we can create a credible business case to support fact based decisions on work environment development, including different development scenarios and their effects on costs, emissions and well-being.

2. The pilots

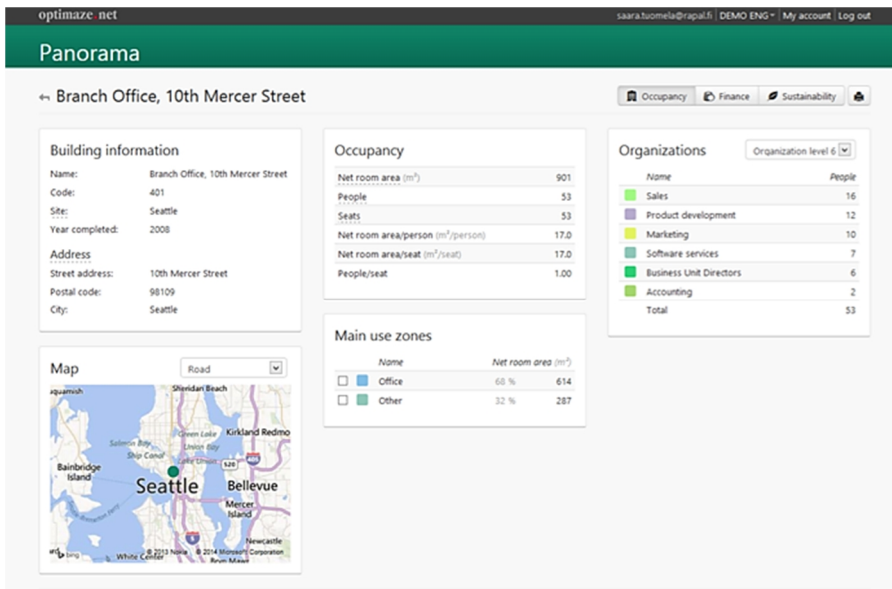


Figure 4. Key performance indicators.

Through this work we looked for answers to the following research questions:

- What are the work requirements that are based on business success factors and key performance indicators?
- How do the ways of working and workplace arrangements affect productivity positively/negatively?
- How can work requirements be turned into strategic guidelines?
- What is the relationship between building performance and work performance?
- How do new ways of working support sustainable development and decrease environmental impacts?

2.2 Senate Properties pilot

Senate Properties and Finnish governmental actors have created nationwide governmental workplace concepts since 2007. The aim of these concepts is, that the workplace management and development in regional offices is done in line with commonly agreed coherent rules outlined in the nationwide concept. The workplace concepts align individual workplace projects to the strategic aims of the Finnish state. These aims include a decrease in real estate costs and meeting the aims of modern knowledge work.

One important aim for all actors in the society is sustainability. This report takes a look at the social, ecological and economic sustainability of Finnish governmental workplace concepts. The sustainability of the workplace concepts is embedded in the workplace management and development processes, but it is not always explicitly visible in the nationwide governmental workplace concept materials. This report uncovers the sustainable elements of nationwide governmental workplace concepts.

From the workplace management point of view the sustainability is manifested in five ways. First, a sustainable workplace should be managed in a way that reduces unnecessary travelling and commuting. Second, the sustainable workplace management allows the workers and customers to act in a sustainable manner. Third, sustainable workplace management utilizes the space in an effective manner while also supports productive processes. The well-being is also an important aspect of sustainability and thus the sustainable workplace management aims at making all user-groups feel well in the workplace. Finally, the sustainable workplace management takes sustainability into account in sourcing and designing new environments.

The research on the nationwide governmental workplace concepts revealed that there are several hindrances and enablers for becoming more sustainable. Perhaps the most important hindrance was the inability to incorporate the potential of the ICT into the new ways of working and modern office environments. Further, the readiness for change and the awareness of the end-users seemed to be lagging behind. Thus the ICT development and sustainable marketing and communication were identified as key development goals in increasing the sustainability of governmental workplaces.

As the ICT and communications were seen as crucial in improving the sustainability of the governmental workplace management, these topics were studied more thoroughly. The ICT development research was done in a case study setting in one Finnish branch of administration. The case study illustrated both the problems and possibilities of utilizing ICT in more effective manner. The case study suggested, that the knowhow and understanding of the strategic importance of the ICT need to be improved. From the communications point of view, the workers were profiled by individual motivations that make workers think and act sustainably. With the help of these profiles the potential for creating sustainable communication tools into internet were studied.

Senate Properties – contribution to NewWoW research questions

Several Finnish government administrations have created nationwide workplace concepts for their network of agencies. These concepts give guidelines for designing workplaces for modern knowledge workers as well as service channels for the customers – citizens and organizations. The concepts create value for both the workplace users and the government. After implementation phase, workplace concepts diminish the government's carbon footprint and improve employee and

2. The pilots

customer experience. Furthermore, they result in increased productivity in operations and savings in facility costs.

The focus of Senate Properties and its research partners has been on the nationwide governmental concepts. The concepts were studied with a wide set of qualitative methodologies. These included, among others, anticipation dialogue based workshops, content analysis of the concept materials and testing mobile devices with actual users. The research on nationwide governmental concepts made following contributions to NewWow research questions.

How do the ways of working and workplace arrangements affect productivity positively/negatively?

To achieve a productive workplace, a fit between physical and virtual environments must exist. In Finnish governmental context, ICT is sometimes a great challenge. In order to increase the productivity through ICT solutions, tangible evidence on the long-term benefits of investing in ICT devices and software should be provided for the management; the employees should be encouraged to learn and to use new ICT tools; and the sourcing strategy should promote movement towards mobile devices.

How can work requirements be turned into strategic guidelines?

The nationwide governmental concepts are based on a process, where the work requirements are first defined and then these requirements are turned into strategic guidelines. After this, the strategic guidelines are described in concept manuals. These manuals make it possible to implement the strategic guidelines in a nationwide network of local premises. Tools for changing work requirements into strategic guidelines include, among others, work profiling and using service design methods.

How can the required change be managed and maintained? (Goal S2)

The change management may be looked from the perspectives of individual local agency or network of agencies. On the level of local agency, the change management usually takes place when a workplace project is carried out. When a workplace change is implemented, the participatory design methods are applied and the users are given information and training. The findings of the Senate Properties' research suggested, that at the network level it is possible to increase the readiness for change even before the change takes place in a local agency. This may happen through consciously changing the organizational culture and communicating the ideas behind the new ways of working and new workplace solutions. One way of communicating the new ideas even before actual workplace projects is through an interactive web portal. This kind of portal is under development in Senate Properties.

How new ways of working support sustainable development and decrease environmental impacts? (Goal S4)

Sustainability is often looked at from technical perspective. A content analysis of the nationwide governmental workplace concepts revealed that workplace management may also contribute to sustainability. The research of workplace management sustainability revealed that sustainable workplaces and services should be managed in a way that they reduce unnecessary traveling and commuting; enable workers and customers to act in a sustainable manner; utilize the space in an effective manner while also support productive processes; create well-being for all user-groups; and take sustainability into account in sourcing and designing new environments.

2.3 Granlund pilot

The goal of the “NewWoW Granlund” project was to create a new work environment **for the whole organization** of Granlund Helsinki. The new work environment should reflect the new strategy and the new corporate image as the leading global technology firm. This should be achieved without any increase on the daily expenses.

The new environment should be sustainable and lead to smaller carbon footprint. By enforcing communication through convenient team and social areas it should increase the overall productivity of the organization. To better serve its clients Granlund needs state-of-the-art customer relation areas detached from the working areas, a new cafeteria, and better data security.

Knowledge workers see themselves as heirs of the old professions. To be a civilized man is not an occupation, it is a way of living and a worldview. It is what you are, not what you do. That is why questions related to good life and well-being were so much in focus.

Knowledge workers see themselves as independent professionals. They do not need organizations or bosses to do their job. How could somebody be a boss of a lifestyle or a worldview? Moral and intellectual authority has replaced power as justification of organizational order. Knowledge work or creativity do not flourish in hierarchies.

Industrialization separated private life, private time, and private space from work life. New “garden cities” were built far away from factories, timecards were introduced, and transport systems created. New knowledge work has broken this harmony by means of its ubiquitous presence everywhere and by its all embracing networks. But is there a way back? What would be a civilized work environment for a civilized man?

It may be that we cannot do away with the separatist forces of modernism. Finnish work laws and labor agreements are very rigid. People are paid by hour. However, we could make things more tangible by accepting the conflict and making it visible.

We should admit that in addition to work space and time and private space and time there is a third state: *third time and space*. Third time is the time which cannot be interpreted either as a work time or private time.

2. The pilots

An example is a person at home watching tv, socializing with his family, drinking beer, and answering work e-mails at the same time. Can this be called work time and could he be paid for it? Definitely not: drinking beer is not something you do at the job. Is it free time? If it were, he should close his laptop and focus on his family.

We encounter such situations on daily basis. There are lots of activities which are work-related but not called as work: cocktail-parties, hunting trips with business associates and so on. These occasions may even be most fruitful from the creativity point-of-view. We cannot ignore this phenomenon, if we want to deal with the productivity of knowledge work.

Third space and time could be a driving factor in the new social order just like industrialism reformed the face of Earth. The places for third life could be HUB's or new kind of commercial environments where business, pleasure, and education were integrated. In new community centers the care of the elderly and kids could be taken care of at the same time with the work tasks. Lots of extra transportation could be skipped.

The new model of work life including the third time and space is called *the expansive model*. It expands the scope of the study from the work place to all activities of knowledge workers and from the work hours to all time spent in work related actions. The model is only a proposal and a hypothesis which should be validated and tested.

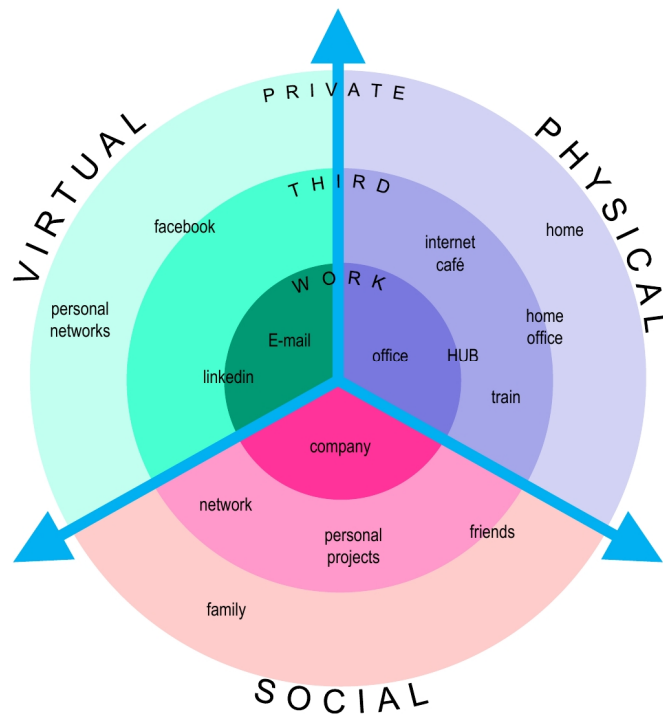


Figure 5. The expansive model of work (developed as project workshop result).

2.4 ISS Finland pilot

The goal of the "ISS Pilot" project – as the actual reason to participate the entire research – was to generate proper understanding and capability to manage a renewal process of a working environment as a value based service solution.

A clear demand for such know-how on the FM/FS marketplace had been identified as an opportunity to deepen the existing customerships as well as entering into new relationships.

ISS's own situation concerning especially the capital area / Finland headquarters was identified as a very typical "status quo" for any corporation with all related questions and needs:

How can work requirements be turned into strategic guidelines? (Research question 3)

How can the required change be managed and maintained? (Research question 4)

This pilot was considered as a test bed and R&D laboratory for developing such capability while renewing own working environment.

The journey started with some very practical tests and surveys focusing mainly on the space and organizational re-location challenges at hand. Planning the relocation in longer term Optimaze Inc. got involved as a research partner. This happened to confirm that a particular process of engagement with those who will be affected by changes in their work environment is needed as a solid base line for decision making and ensuring a commitment based functionality in the future.

Approach of the Q3 happened actually conversely starting with the business requirements and desired outcomes, aiming to figure out elements of optimum environment through working practices:



Figure 6. Elements of optimum environment through working practices (Laarni et al. 2014).

As a result of this process we got a framework describing some fundamental principles and rules shaping the future environment as an entirety of elements of technology, WAYS of working and a network of places.

We also resulted with a definition of capacity of physical space divided into selection of different types of use.

2. The pilots

Answering Q4 it was clearly realized that communication plays a more than a fundamental role managing a renewal with such comprehensiveness. The management buy-in and commitment is clearly something else than a cliché if anyone wants to success as a conductor of a change this large.

One major finding of the pilot is that a renewal process like this needs to happen within a prompt and rapid time scale. Our own journey has lasted clearly too long with painful delays between different stages. A program this wide-ranging also needs to have a strong and recognized position on company's strategy plan with enough visibility on communication channels.

Putting on a hat of a management consultant ISS is stepping here on a field which is clearly not within its core business area. There is a challenge of credibility when a FM provider takes a role of orchestrating a renewal including actually very strategic questions of personnel management. This is why it is essential for ISS no build a network of expertise in several areas of e.g. technology and HR issues instead of trying to be the master of everything.

ISS is however very experienced carrying a project management role with different scales of sub-projects and special competence areas. Still quite typically a change or renewal like this pilot project is triggered by the challenges of space or facilities. Therefore it is good to have the capability to respond whenever this opportunity emerges.

Taking a 4 stage development span as "DATA COLLECTION – ANALYZING – PROGRAMMING – IMPLEMENTING" ISS has very natural role in phases 1 and especially 4. This project has equipped us also to react and operate with the 2 other stages. Perhaps the most concrete outcome of this journey is the business unit with a team in place handling this sort of customerships of developing working environment.

It is worth underlining that ISS remains as a FM service company. It is unlike that core strategy gets changed remarkably because of these new openings. All learnings so far although are well aligned with the original target of taking ISS somewhat higher in the food chain of providing value adding service solutions to all its customers.

2.5 ISS Lahti pilot

This report presents the results from the ISS Lahti pilot case of RYM SHOK New-Wow project which was conducted in collaboration between Stanford PBL lab, ISS and VTT during 2011–2012. The purpose of the Lahti pilot case was to study factors of physical, virtual and social environment that enhance or disrupt knowledge work on individual and team level at a new ISS regional office in Lahti remodelled according to new ways of working principles. More specifically, the objective was to examine how to increase engagement in the work of service secretaries, superiors and managers working in the business area of security, technical and cleaning services. The employees had moved from an old office space not supporting the needs for transparency, interaction, collaboration, and

engagement promoted by new ways of working practices. The remodeled ISS Lahti regional office was designed following a new space concept developed at ISS called *the office of choice* (Fruchter et al. 2014). The new space concept was designed to support diverse work tasks allowing the employees to choose a space most suitable to their activities.

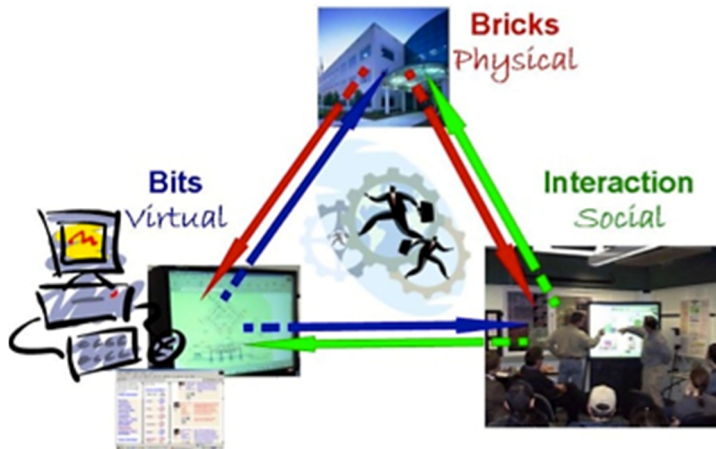


Figure 7. Bits, bricks & interaction (Fruchter et al. 2014).

The research team conducted an ethnographic study during three working days at the new Lahti office site, where the researchers observed how the employees experienced the new space in their daily work. Three methods were utilized; observation, interviews and questionnaires. Additional workshops were held at the ISS Lahti office to engage the employees in the study as well as provide them feedback.

The results of the Lahti pilot case contribute to the development of methods that support a continuous and dynamic transformation of the work environment, explicit choices employees make with regards to place, technology, and work processes. This encourages an integrated approach that brings space management, ICT management, and business processes together taking into account the end user perspective and evolving needs.

2.6 VTT, ISS, Granlund – “3 pilots case study”

The NewWow project of RYM PRE program has been conducted in several phases. The first phase included the state-of-the-art, presenting some relevant theories as well as experimental findings in the area. Starting from this, the goal of “3 pilots case study” was to take a detailed look to three organizations’ approach to the new ways of working based on the project’s perspective and scope. (Laarni et al. 2014.)

2. The pilots

The first part of this case study refers to Consultative work by Optimaze Inc. Their approach combines: Desired Outcomes Identification, Key Work Practices Definition and Enablers' selection for the work environment. The generic consultative process was fine-tuned to the three organizations' main business interests. The variation resulted in 3 pilots with a specific focus: Enablers (VTT), Concepts (ISS) and Future (Granlund).

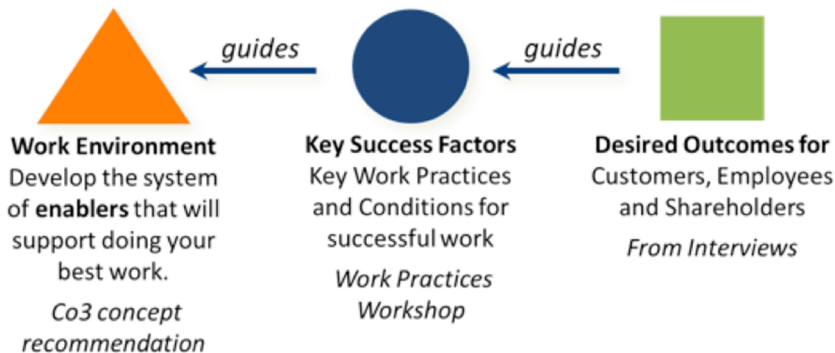


Figure 8. The concept linking desired outcomes to enablers in work environment (Laarni et al. 2014).

Results

- Out of VTT's set of 12 key work practices, 4 were selected for the Enablers pilot: "Working flexibility is a norm", "understanding how my work fits to VTT overall", "communicate frequently/quickly/informally", "discipline in project management".
- ISS' Concept pilot included: Social enablers, technology enablers as well as Physical enablers in a concept.
- Granlund's Future pilot covered: Combination of key work practices from "real engineering" to "managing team proactively" as well as prototype concept of international cloud engineering team.

The second part of the study was proposed during the project to compensate for the lack of investigations in the social and mental realm of NewWoW. An additional research question based on the findings from the literature review and experiences of participating organizations introducing NewWoW programs was added. The "8th" research question: "What aspects of the social environment enhance or disrupt knowledge work?" was specified at the individual, team, firm and societal levels:

- Are there aspects of your work environment which affect your personal life?
- What aspects of team work enhance or disrupt your own work?
- What company policies or practices enhance or disrupt your own work?
- What national policies or practices enhance or disrupt your own work?

A multi-method approach eventually developed to address the updated research plan. At first a web survey, designed and rolled out by VTT to Finnish employees of the 3 organizations (VTT, ISS, Granlund). As a further research tool, group interviews were also carried out. The survey participants were selected by organizations' NewWoW representatives from a pool of employees that had been introduced to New Ways of Working, in some way. Below is an extract of the results which shows the interest of participants in downshifting across the 3 organizations.

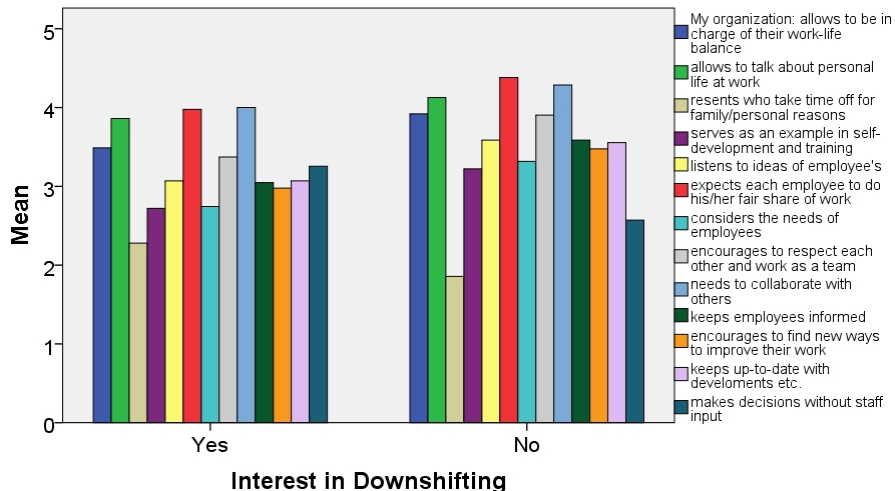


Figure 9. Example of the survey results showing mean values (Laarni et al. 2014).

The third part of the case study was then the group interviews (Focus Group discussions lasting from 1.5 to 2 hours) alone per organisation in Finnish as well an international group (in English) consisting of employees from VTT and Granlund. The guiding Research Question (RQ) behind the focus group interviews was adapted from that of the survey. While in the survey we were interested to know “What?”, in the focus groups we sought for the “How?” and the “Why?”. The guiding RQ was transformed into: “*How aspects of the social environment enhance or disrupt Knowledge Work – on individual, team, organizational, societal levels. Why?*”

The recorded discussions were transcribed and content-coded both manually and by Atlas.ti, a software package for qualitative data analysis. Content codes were created via both a top-level approach and a bottom-up approach. In the top-down method, some coding labels were initially generated from keywords adopted within the applied theoretical traditions, other labels were derived from the Research Question, i.e. referred to the impact and implementation levels and still others referred to themes commonly used within NewWoW academic and practitioner circles. Bottom-up coding is closer to the data, it refers to assigning short descriptive labels to the selected text (quotations).

2. The pilots

An example of the coding interactions view from Atlas.ti is provided in Figure 10. This network view highlights the relationships between Codes relating to “Flexibility” & “Inflexibility” definitions and the other most associated codes. The findings are aligned to the theories used as background e.g. Self-determination theory. All findings emphasise the importance of the social environment aspects for scientific discussion.

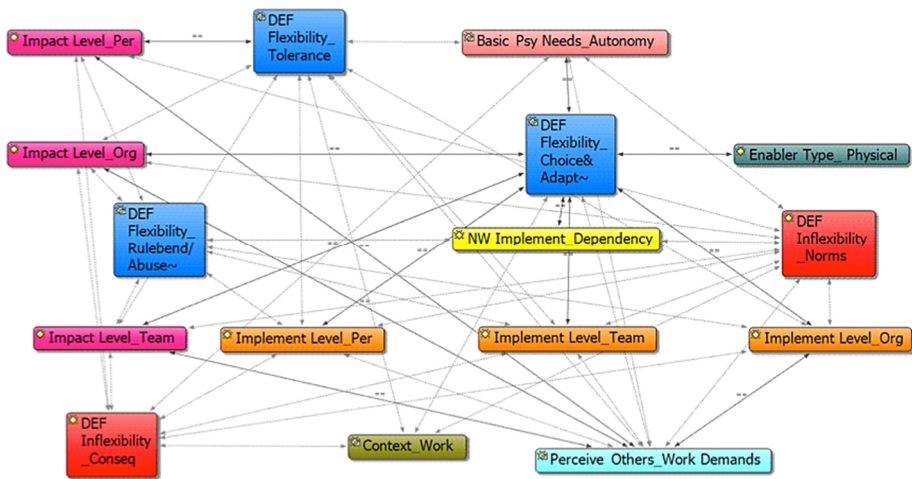


Figure 10. Example of the TI Atlas view showing the relations of the codes (Laarni et al. 2014).

2.7 TUT pilot activities on productivity

Objectives

The objectives for Tampere University of Technology in NewWoW project were related to productivity phenomenon. The first objective was to increase understanding how productivity impacts could be measured in NewWoW and the second object was to investigate what kind of impacts could be achieved by using NewWoW. This research was part of work package 2.4 pilots and answers research question 1: How do the ways of working and workplace arrangements affect productivity positively/negatively?

Methods

Research consist three methodological approaches. The first study focused on two of the case companies with the aim of analyzing the potential to improve knowledge work productivity through the use of NewWoW. The focus of the study was to examine the usefulness of interviewing as a subjective method of capturing individual knowledge workers' views about the productivity potential. The second

study developed a questionnaire to capture key elements of knowledge work performance and of the elements of NewWoW-related work practices. This study covered all four case companies. The third study was a longitudinal case analysis of a NewWoW change project carried out in one of the organizations. The aim was to capture the multidimensional performance impacts of a NewWoW initiative by measuring chosen performance dimensions before and after the change.

Results

Three approaches in methods section can be also seen as results of the research. Interviews, questionnaire and multidimensional measurement are valid tools for measuring productivity in different occasions. NewWoW can have many positive impacts on a firm's performance and competitiveness at various levels. Firstly, new ways of working can have an impact on employees' job satisfaction, motivation and productivity for example, through improved work-life balance. In addition to knowledge work productivity and well-being, the rationales for implementing new ways of working from the organizational perspective are related to cost and resource savings. With different kinds of space usage it is possible to use the organization's resources and especially space more efficiently. This naturally leads to reduced occupancy costs, for example, there can more employees per one desk in a hot desking solution. Working from home reduces travel costs and at the same time takes into account the sustainability aspect reducing the carbon footprint caused by commuting.

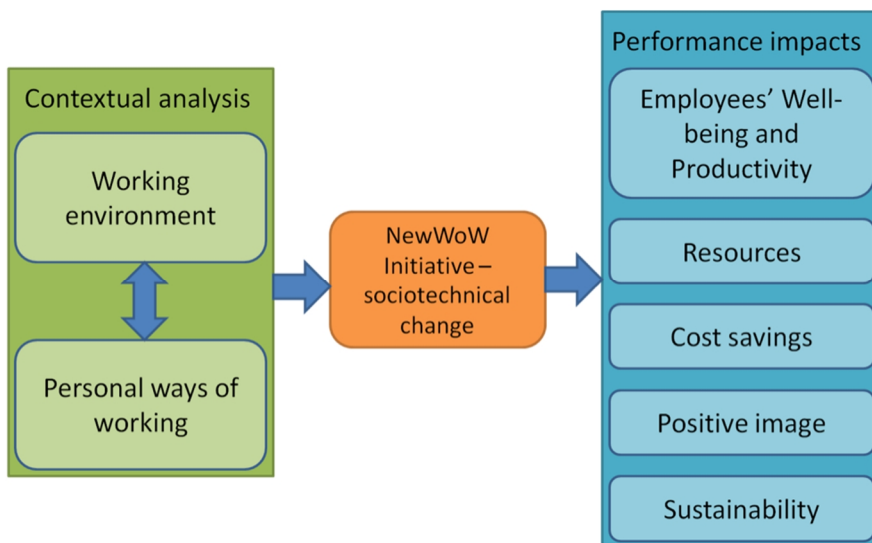


Figure 11. An overview of NewWoW initiative and its impacts.

Discussion

In order to plan any NewWoW initiatives to improve the performance of knowledge-intensive companies, the current state of organization behavior needs to be understood from the knowledge worker's point of view. There are various contextual factors which may either enable or prevent the successful activities within companies. In addition to these components of work environment, the personal ways of working can be seen as an important performance driver. If the workers are not willing to change their habits or attitudes, fancy offices, tools and policies are not making any improvement.

3. Lessons learned

The pilot project specific discussions are presented in each pilot project chapter exclusively for the pilot itself. The findings are covering widely the scope of the NewWoW project.

To find the common lessons learned of the NewWoW pilots there was held a workshop with representatives of all pilots. The lessons learned per pilot were first collected as a pair of an identified problem and expected impact after the problem is solved. The pairs was the placed to one of the four preselected main categories which describes best the origin of the problem (people, business, process, technology).

In a second phase the list of problems and expected impacts was grouped as teamwork forming totally twelve groups within the four main categories. Now, the list represents the “common lessons learned” of all the pilots together with descriptive headings.

In third phase there was a real challenge to identify one or more common solution for the identified problems group as well as how to measure the impact. This effort was done separately to all twelve groups. The result of this workshop was then a list including twelve problem groups and the sequence of problem-solution-impact-measure.

In the next meeting the results of the workshop was consolidated to be one picture of main lessons learned in a form of “identified problem- proposed solution-expected impact- how to measure”.

Final result, the next picture, is the common lessons learned of all pilots. After the picture there are compact descriptions of all the twelve lessons learned.

The lessons learned are in great deal the same challenges that organizations have been facing without any change process towards new ways of working. In the organization looking for a sustainable change the challenges turn into problems to solve. The unsolved problems are hinderers for change. Furthermore, the problems with interactions e.g. people-processes-tools should all be solved at once to avoid jeopardizing the anticipated impact.

3. Lessons learned

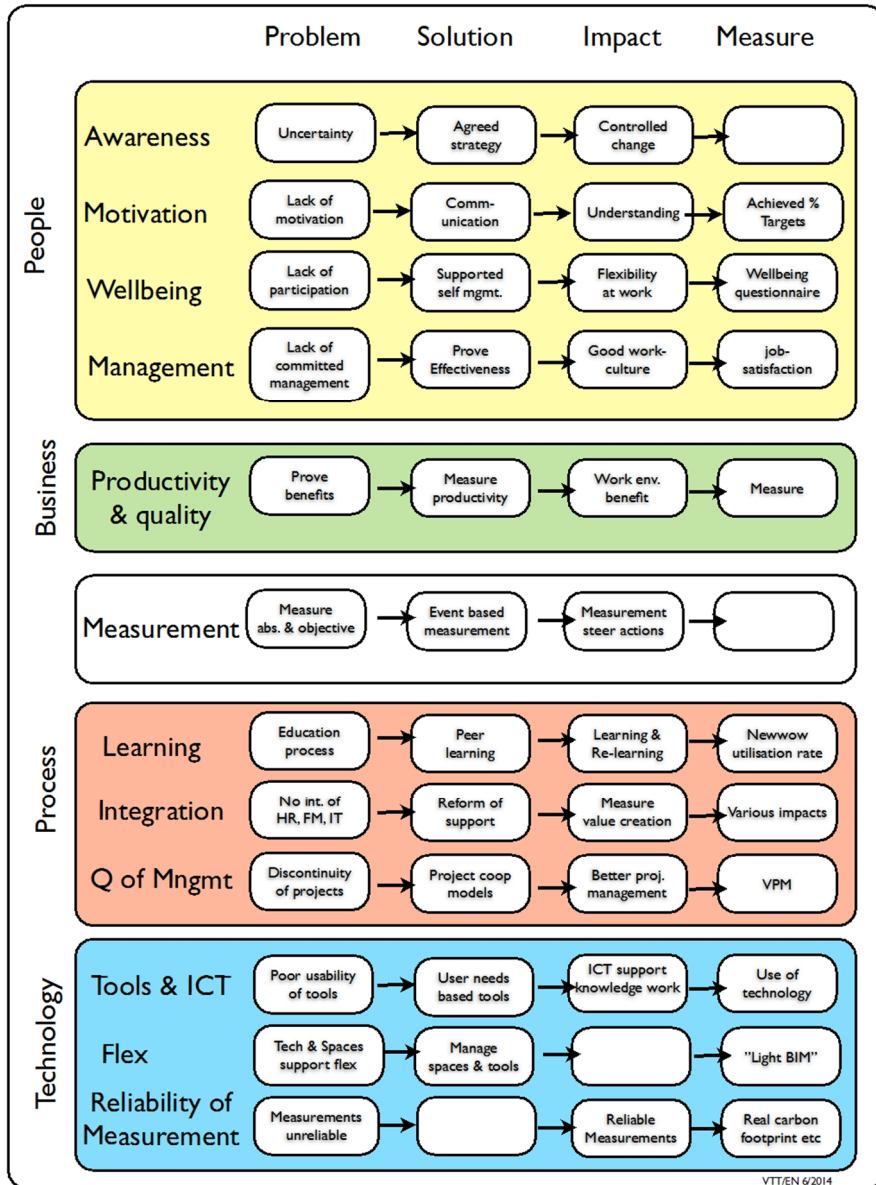


Figure 12. The common lessons learned of the NewWoW pilots listed as: identified problems followed by proposed solutions, expected impact and how to measure the impact.

Lessons learned – people in focus

Awareness:

The problem called uncertainty is a result of the fact that employees have not enough nor correct information of the new ways of working to participate the change. The solution is clearly agreed and communicated strategy to make all employees aware of the strategy and the reasoning for change. The natural impact is the controlled change.

Motivation:

Problem of the lack of motivation could be solved with increased amount of communication in all levels of organization. The impact is expected to be better understanding of the needed actions by each individual. Furthermore, the impact is measured directly e.g. as percentage of achieved targets.

Wellbeing:

Lack of participation can be a starting point of a problem or a consequence of issues in wellbeing. The proposed solution is the support of self-management. The responsibility of the self-management lies on the employee. The impact of the better self-management is foreseen to be more flexibility measured as increased wellbeing.

Management:

The lack of commitment of the management can be a problem to be solved by proving the effects of the new ways of working from the management point of view. The impact of committed managers leads obviously to better work-culture. The results can be measured as better job satisfaction in entire organization.

Lessons learned – business in focus

Productivity & quality:

The problem of the productivity is to how it can be proved? The solution is to measurement the productivity. If direct measurement not possible then the employees' experience of the productivity should at be measured. The organization interest to the experienced productivity (link to wellbeing) benefits work environment. The wellbeing can be measured thus affecting to the productivity.

Lessons learned – between the business and processes

Measurement:

The problem between the business and processes is how to make the measurements absolutely and objectively. The proposal of the solution is to create event based measurements. As impact of event based measurements it is possible to create a situation where the measurements have a steering function to action.

Lessons learned – process in focus

Learning:

Problem in learning is that the new way of working needs also new education process because the conventional-one does not seem to work. The proposed solution to this is peer learning where the employees learn from colleagues thus developing the learning constantly within organization. If the new peer learning is then successful the impact to learning and re-learning should be remarkable. Utilisation rate of for instance new tools could be the measured to prove the impact.

Integration:

The integration of the HR, FM and IT functions to the daily work is missing. Solution to solve the integration should be a total reform of the functions in the way where the functions impact to value creation. The measurement of the impacts should be the same as whole organisations measures.

Quality of management:

Discontinuity of the projects is a problem also in new ways of working. By using the project cooperation tools the discontinuity could be solved. The impacts is the better project management which can be measured using Value Process Management (VPM)

Lessons learned – technology in focus

Tools and ICT:

The common challenge of poor usability of (ICT) tools creates a main problem in new ways of working because the tools are in key role when doing, for instance, the work in alternate work places. The solution is to only use tools that really work along user needs. The impact of the new selection of the tools in use makes the ICT really to support function of knowledge work. The higher utilisation-rate of the tools can be easily measured.

Flex:

The “flexibility is a norm” in many organization but without proper support of spaces and tools. Management of the spaces and tools in accordance with the flexibility needs should be a norm also. The use of e.g. BIM effectively to these activities could be the measured impact.

Reliability of measurement:

Measuring phenomena under constant development is a real challenge. Speaking of new ways of working the phenomena to be measured vary from people’s behaviour to pure technology measures including unknown combinations. The solution is not proposed in these pilots but the impact is expected to be reliability. Only then, a real carbon footprint can be calculated and used as justification for actions.

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Title	Summary of pilot cases New ways of working
Author(s)	Esa Nykänen, Jari Laarni, Hanna-Maija Määttä, Anna-Leena Raji, Anne Sundqvist, Heikki Lonka, Pekka Mattila & Miikka Palvalin
Abstract	<p>This report is summary of the pilot-phase of the NewWoW project. The report introduction presents shortly the project and the content of project in general. The six categories of new ways of working state-of-the-art report is presented in one picture.</p> <p>The objective of the whole NewWoW project is a set of eight research questions and five scientific goals. The total of six pilots have been selecting at least one research question and one scientific goal to qualify as project pilot. Also the “productivity task” of the project is presented side by side with pilots because of the important role in piloting and representing as a whole one of the research questions. The pilots and their relation to these objectives is summarized in one picture.</p> <p>The Pilots section is presenting the as individual extended summary in separate chapters. The chapters include the Pilots individual results or discussions highlighting the structure and the results based on the piloting partners choice.</p> <p>The last section is a compacted lessons learned of all the pilots replacing replacing the usual discussion. The lessons learned is a summary of all individual pilot representatives made in a workshop discussion. The final result of the common lessons learned is presented in one picture and short text of twelve main identified problems a sequence of: “1. identified problem, 2. proposed solution, 3. expected impact, 4. how to measure”. The list is divided in the categories of “people, business, process, technology” with problems categorized respectively.</p>
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