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Opinnäytetyö tutkii voidaanko tilamuutosprojekteja parantaa muuttamalla projekteja nykyistä käyttäjälähtöisemmiksi. Käyttäjälähtöinen lähestymistapa tilamuutosprojekteihin voisi parantaa projektien laatua ja lopputulosta kaikkien osapuolten kannalta. Käyttäjälähtöisyyden merkitys muilla aloilla, kuten palvelu- ja tuotekehityksessä, on kasvanut vuosittain. Toimitilajohtamisessa aihe on yhä uusi ja sen tuomat mahdollisuudet ovat suurelta osin hyödyntämättä. Uusi lähestymistapa voisi kehittää alaa ja projektijohtamista monella tapaa.

Opinnäytetyön tarkoituksena on todistaa, että tuntemalla käyttäjien tarpeet entistä paremmin ja ottamalla käyttäjät osallisiksi muutosprojekteihin, voidaan saavuttaa huomattavia hyötyjä. Tutkimuksen tavoitteina on selvittää missä vaiheessa projektien tulisi muuttua aikaisempaa käyttäjälähtöisemmiksi, jotta lopputulos kokonaisuudessaan paranisi. Löytämällä tarkat kehityskohteet voidaan nykyistä perinteistä projektimallia muuttaa ja toteuttaa onnistuneempia projekteja. Tutkimuksen tulokset kehittävät tilamuutosprojekteja ja toimitila-alaa käyttäjälähtöisemmäksi, mutta myös parantavat projektijohtamista paikallisella ja yritystasolla.

Opinnäytetyön tärkeimpiä käsitteitä ovat toimitilajohtaminen, projektijohtaminen ja käyttäjälähtöisyys. Työ keskittyy tilamuutosprojekteihin, sillä ne ovat lähtökohdiltaan enemmän käyttäjiä huomioivia ja käyttäjät ovat niissä väistämättä vahvasti mukana. Työn ensivaiheet esittelevät perinteisen kirjallisuuteen pohjautuvan tilamuutosprosessin, sen vaiheet ja tärkeimmät osapuolet. Käyttäjälähtöisyyttä ja sen lisäämistä projekteissa selvitetään haastattelemalla viittä kokenutta asiantuntijaa. Haastattelut paljastavat tarkemmin prosessin eri osapuolten näkemykset ja yksityiskohtia käyttäjälähtöisyydestä projekteissa. Haastattelujen tuloksista selviää missä vaiheessa muutosprosessia projektimallia kannattaa muuttaa ja minkälaisia muutoksia tulisi malliin tehdä. Haastattelujen ja kirjallisuuden avulla projektimalliin tehtiin muutoksia, joiden tavoitteena on lisätä käyttäjälähtöisyyttä havaituissa kohdissa. Uutta projektimallia kokeiltiin testiryhmän avulla ja tulokset arvioidaan lopuksi.

Tulokset vahvistavat projektien osapuolten uskon, että lisäämällä käyttäjälähtöisyyttä projekteissa voidaan saavuttaa huomattavia hyötyjä. Työn tuloksena kehitetyn uuden mallin käyttäminen onnistuneesti ei kuitenkaan ole mahdollista muuttamatta myös projektien osapuolia tai heidän tehtäviään. Uuden projektimallin käyttäminen vaatii uutta osaamista ja uusia rooleja projektioorganisaatioon. Toimitilajohtamisen organisaatiot ovat avainasemassa uusien toimintamallien ja muutosten toteuttamisessa. Tutkimuksessa kehitetty käyttäjien tarpeiden tutkimiseen keskittyvä vaihe antaa mahdollisuuden toteuttaa projekteja käyttäjälähtöisemmin osallistamalla käyttäjiä enemmän projektin alkupuolella. Toinen muutos, käyttäjistä koostuva katselmointiryhmä tuo huomattavia hyötyjä, mutta ryhmän hallinnoiminen sisältää enemmän haasteita. Yleisellä tasolla toimitilajohtajien on ohjattava projekteja eri tavalla ja huomioitava uuden mallin tuomat tarpeet ja haasteet. Myös projektien osapuolten on ymmärrettävä uudet tarpeet ja projektit on suunniteltava niiden mukaisesti. Pidemmällä tähtäimellä muutosten on vaikutettava yrityksen toimintamalleihin ja kulttuuriin, jotta voidaan saavuttaa pysyvämpi muutos yrityksessä ja uusi näkökulma projektijohtamiseen.

Asiasanat: Käyttäjälähtöisyys, projektijohtaminen, toimitilajohtaminen, tilamuutosprojekti

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This research studies whether rebuilding projects could be improved with a more user-centered approach to the change process. A new perspective on facility change projects could benefit all stakeholders and increase the quality of the projects. The user-centered approach is gaining success in service and product design, but it is still young in facility management and building industries. Work environment and user satisfaction are growing in importance, which is creating pressure to increase the quality of the change process. A new approach could develop the industry and projects in many ways.

The purpose of the thesis is to study and prove that benefits can be gained by knowing the users better and by involving them more in the rebuilding projects. The objective is to locate focus points, where the change process would most benefit by increasing user involvement or user understanding. Based on the focus points, it is possible to change the current project model in order to achieve more successful projects. The results develop the facility management industry towards a more user-centered approach, but also develop the project management on a local and corporate level.

The thesis is based on the theory of facility management, project management and user-centered approach. It focuses on rebuilding projects for they are more user-centered by default and always involve users. The thesis starts by introducing a typical facility change project, the involved parties and how users influence a project outcome. Next, five interviews, covering all the major parties in a project, were conducted to include professional opinions and details about the user-centered approach and user involvement in projects. The interviews reveal important focus points where the user-centered approach has most development potential. The interviews and literature were used to create changes that increase the impetus of the user-centered approach. Overall, a new project model was created based on the changes. The new model was tested in a co-creation workshop and the results were evaluated.

The research results prove how all participants consider that major benefits could be achieved by modifying the projects to be more user-centered. Implementing projects in a new way requires skills and roles that are not typical to the facility management and building industry. Facility management organizations are in a key position to endorse this new perspective and promote the found benefits. The new user studies phase, discovered in this research, provides an alternative that involves users early in a project. The second modification changes the later phases of a project and it is called a user viewing group. It possesses potential but has more risks and challenges. When changes are made to the model, the facilities management organization has to know the risks and challenges created by involving users more. Based on this thesis the benefits are greater than the risks, but require that the project organization has more resources and the projects are planned to include the changes. In the long run the new model and the changes could be integrated into the corporate culture to gain more permanent changes and a new perspective on change.

Keywords: Facility management, project management, rebuilding, user-centered, user-oriented

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1 Introduction

Facilities are an essential resource for any organization. With technology and society evolving, the requirements that business and organizations have for facilities change constantly. In order to match these changing needs companies are moving, building and reconstructing premises, possibly more than ever before. Even existing facilities need to be constantly developed for them not to become obsolete. It is most often possible to extend the lifecycle of a work environment by renovating, refurbishing or updating equipment. If the space is inadequate or too large, the companies most often move to new premises that are first modified to fit the new users. The tasks of building, relocating and changing are the responsibility of an organizational branch of facility management. A separate unit, an external company or even a collaboration of companies form an organizational unit of facility management. Facility management has an important task of making sure the premises and services always support the organization using the space.

The role of facility management is not just to upkeep services and facilities but to improve them and develop the facilities to allow the company to change. Changes in an organization require changes in the premises and changes in premises also alter the ways the organization functions. Building and modifying space is done by starting projects that alter the physical in a controlled but efficient way. As companies most often already occupy premises, facilities management is shifting more and more towards project management. Changes are constantly needed and they need to be done before they start affecting the business.

The changes in business and society are changing how we use the space we work in. In the increasing competition, the quality of work environment is becoming more important than ever before. It has been realized that a facility is an asset for the company that uses it. For the asset to be valuable it needs to match the needs of the users. Facility management is in a key role in understanding the user needs and developing facilities towards them. The challenge is that, understanding the user needs is not only extremely complicated but also difficult to implement in projects. Facilities change projects include a number of external professionals that plan, guide and manage that a specific area of the change process. These external professionals are not familiar with the users and their needs, but rely on the information given to them. User needs go through important process of selection and filtering before the projects are begun. It is often said the tasks of a project manager is to manage time, costs and quality. The process that affects the project quality however starts before project manager is chosen. Therefore to increase quality in projects, must the whole change process be researched, understanding users is a key issue.

This research studies the facilities change process in order to better include user and understand their needs in projects. The hypothesis is that project quality could be improved understanding users better and including them more. Possibly even project costs and efficiency could be improved by better considering the users in the early phases of a project. The research first explains the parties involved in a change project and their roles in such a project. A typical project model is researched to explain the current project management and processes used in the field of facilities change projects. Projects, even often different, follow similar phases and most of the organizations have the same basic structure.

To develop the projects a number of professionals were consulted to find development points how and if to alter the process towards more user-centered. Based on the interviews, current model and my experiences a new project model is created to develop process. In the new project model users' role is increased and user needs are better understood. To achieve this, the new model is more user-centered and involves users more. The new model is also evaluated and discussed to learn more about its usability. Benefits can be achieved in using the new model, but also challenges are described. During this research it becomes clear that increasing user-centered approach requires not only changes to the project, but also new roles and possibly changes to the facility management organization managing the projects.

1.1 Background and purpose of the thesis

I work as a project manager and consultant for facilities change related projects. I have worked in the field of facility management and services for the last 6 years. Within my professional career I have been managing or a part of several large facilities change projects and dozens of smaller ones. The biggest ones have lasted over 9 months and involved hundreds of users with their specific needs. The projects are mostly related to changes done in office facilities, such as refurbishing, technical improvements or large moves to new or existing premises. Still no matter how different in detail, the projects always follow a similar pattern. Earlier, I graduated from Laurea University of Applied Sciences focusing on facility management. My bachelor's thesis was about managing a project developing the premises of Laurea Leppävaara campus.

Projects I am most familiar with focus on developing office facilities and support spaces, large moves and refurbishing. Usually the buildings are already in use which creates a slightly different starting point for projects compared to building something completely new. Also when rebuilding, there are more limitations. The projects in existing facilities involve and affect users even if they might not be included in to the project itself. This on my opinion encourages users to comment and search more information about the changes to be done. I have worked as a project manager and in many supporting roles. Besides project manager,

often my role is and has been to act as a workspace consultant, to see that the plans fit the user's needs and way of working. In the projects I negotiate with users, study user needs and discuss about them with designers, construction companies and project owners. Based on my experience there is often a gap between the project group and the users that needs to be addressed.

Projects never end up perfect, for all users can never be treated equally and all needs can't be noticed or included in to the project scope. Projects need to be done in certain way in order for them to be controlled and efficient. Even in a successful project, compromises and quick decisions are made to solve problems and most importantly in order to follow budget and schedule. Improving something existing adds a challenge to this. A lot of people have a direct influence or at least hope to change the details. Some of these opinions are important and some should be ignored. It is hard to tell them apart and the decisions unfortunately are not always the best ones for the users. It is important to involve and to understand the users to best realize how they work and what they need. I Believe projects could be more successful if they would be more inclined to involve and listen to users more.

Within my field of work I am constantly introduced to problems within the current facilities. The users contact me about their needs regarding something, the service coordinators point them out or they can be clearly seen when visiting the premises in use. The problems are either a result of changes in the user needs, changes in technology or services, mistakes in previous projects or compromises to save resources. Too often such problems can be found even in rather new premises, which rules out the first alternatives and leaves only few options. A mistake was made, because user needs were not known well enough or the needs changed soon after the previous project ended. Even if the organizational changes were rapid, newly rebuilt premises should be able to support changes, for they are to be expected. Usually the problems I encounter in new premises are not caused by the lack of expertise or a mistake by a designer or planner, but from too little or wrong information about the users and how they intend use the space.

The problems I often face are in a more detailed level of planning. They do not affect that much the general purpose of the space, but make the users life just a bit harder each day. They affect productivity, creativity and user satisfaction. These problems are for example space design that does not recognize the user function, furniture or equipment decisions that do not fulfill the user needs. If the problem affects service providers, it most often creates costs from starting point until fixed. Service providers often face problems such as lack of logistic paths and storages, materials that can't be kept clean or equipment that is harder to use than necessary. Small choices made during the projects will cause problems to all or specific users as long as they are fixed. This will result either in increased costs for fixing the

problem or decreased usability, productivity and user satisfaction. Fixing them after the project costs multiple times what it would have cost during the project, or sometimes is just impossible.

To my opinion many of these problems could be prevented by knowing all the users and what they do better or by involving the users to the project to gain this knowledge. I had several discussions with other project managers and project group members if they shared my views and found out that my opinion is agreed by many. Often also the users have said that if they were asked, a certain problems would have been prevented. I started to consider about how this could be achieved and this created the starting point for this research. Eventually the study was limited to searching for ways to minimize wrong decisions by explaining why and how should the users be involved in projects. With some more considerations this research was aimed to develop the change process towards more user-centered and to learn more about the subject. My hypothesis is that this would improve the quality of projects and possibly improve other aspects of project working as well.

The purpose of the research is to find out if increased user involvement has potential to improve projects. The goals are to find the points in the process where user involvement could be increased so the change process would still be similar and possible to implement. With changes in the focus points I aim to create a new project model that would harness the benefits of increased user involvement. Last my goal is to test the new model and get feedback of the changes.

1.2 The scope of the thesis

The thesis will first study the current project model, a typical project and organization. Interviews with project participants will reveal if user knowledge should be increased and what would be the focus points for changes. By comparing the current model with the interviews, changes are made to the project model. It can be improved, to one that is more user-centered, by changing the organization, process, phases or the methods used to gain user knowledge. The project phases and their purpose might need to change to involve users better. Project organization could possibly have new roles or new member recommended to join the organization. New methods could add ways of finding out how to involve users or gain more knowledge of their needs. Further possibilities are to alter roles in the facility management organization that plays a major role in change projects and setting up a project for the project group. The results of the study should serve FM organizations, project managers and all other parties interested about change projects.

Projects have multiple variants and they are most often a bit different each time, even if done by the same organization. The model I research and develop is a general one, which can be altered to fit a most projects even though their differences. For this reason I will not go into the detailed level of tasks and methods. I will simply explain the changes and what should be achieved by them. The goal is also to keep the model a practical one, the model needs to be one that can be altered to fit any organization.

The thesis studies change projects, where it is assumed the current user groups and their ways of working are possible to be studied. This means the user organization is always in some way involved in the project. Be it move to new facilities, changes in the current facilities or building a brand new real estate, the users get to know about the project and are often influenced by it even during the changes. The projects the thesis is studying are large enough to need a project organization and involve multiple users. For example a renovation of an office space with multiple different type of users. Also the model studied requires that there is an organizational unit responsible of facility management. This rules out companies that are small and where the facilities management is represented by a group of few persons. Due to my background and professionals included in this study, most of the examples are about projects done in office facilities and related service spaces. Most topics and details however should be as viable to other similar projects where users present their needs to develop or build facilities.

Involving users has many pitfalls that can slow a project down, increase costs and even create more resistance towards the changes intended. User involvement and change management are interesting topics and enough to be research topics on their own. I will scrape the surface of these topics but intent not to study them at deep. As many studies will show user empowerment and involvement has potential to lower change resistance and can be used as a tool. However I will limit my studies to proving this, but not explain how it should be achieved on an organizational or professional task level.

The changes on the new project model focus on changing how the facilities management, users, business management and project management work on projects. The tasks that designers, planners, consultants and construction managers have are not my primary focus. They are usually the most experienced part of projects and have quite strict focus areas. They act or at least should act under the project managers and owner directions. Some might argue this, but it is hard to see designers studying the user needs closely without them being directed to do it. Also it is up to the project manager or steering committee to choose designers and specialists that suit the specific project and have the skills to understand the needs of all users. So it is the overall process I wish to improve, not the role of anyone in particular.

1.3 The structure of the thesis

The thesis will begin by explaining the background and goals for the work. This will guide readers to understand why the thesis is done and what kind of history relies behind it. It continues by describing the terms and theories behind this thesis. It is about facility management and subtopics related to project management and user-centered approach in them. The research work will start by finding a typical change process, explaining project phases and their purpose. Next it will represent the most important groups that are affected or directly involved in projects. Finally users' role in projects and how they affect the outcome is studied to combine the topics. These chapters also demonstrate what kind of benefits could be gained by more user-centered project and what kind of risks often prevent projects would face by changing the focus.

Once the current project model and reasons for development are introduced, the thesis will collect professional views on if they agree with my hypothesis, that user involvement should be increased. The interviews also help to locate focus points, where the project model could be improved and point out how this could be achieved. Based on the interview research, the framework and my experience, a new project model is created. The thesis explains the changes and how they would improve the user focus on projects and by doing this improve the process.

Finally the new model is studied together with some professionals to the test the results and get additional feedback on the model. The workshop will provide more feedback, ideas and opinions about how the model would work and if there are more improvements to be made. The thesis will conclude on reflections and conclusion on the study and results received.

2 The research topics and theory

The research is based on professional field of facility management and related topics of project management and user-centered approach. Projects and facilities change management are tasks under a larger professional field of facility management. I will from now on often refer facilities management as FM. In short FM is about managing the acquisition of space, developing them and managing the services related to their use and keeping (Rakli 2001, 13). FM aims to have a wide perspective to owner and user needs and to fulfill them cost efficiently (Siikala 2000, 190). FM includes a wide field of task, but during this research I will only focus on the role that FM has in developing existing facilities and the change process. Wood (2001, 146) explains that facilities management is "planning, providing and managing facilities through the changing needs of an organization". Therefore facility management organization is typically a central part of the change process in setting up the project and acting as the

link between the project, management and the users. Facility managers are often expected to take on a project management role (Wiggins 2011, 131).

Project management is way of working to change things with a certain process. It is a familiar way of working in the field of FM where physical environment is changed and developed (Wood 2001, 146). Also it is an efficient way of changing the physical environment, where the projects have a clear ending point once construction work is complete. Wiggins (2011, 103) explains projects as a "significant, non-routine change, with defined objectives, a clear start/end, which requires an investment decisions. All of this applies to facilities change projects perfectly. Facilities change projects follow processes that mix the FM organizations procedures and construction project traditions. FM organization plays a central role on setting up projects, deciding how projects are organized and how are the user needs represented during projects.

Siikala (20001, 194) explains that facility users are the customers of an FM organization. A modern FM organization works to keep the users satisfied, their work efficient and the facilities and services sustainable and efficient (Wiggins 2011, 13). The value of the space is created by location, image, usability and services (Riihimäki & Siekkinen 2002, 37). Users define how those values are prioritized. Therefore knowing the users is one of the important tools to achieve the goals for facility management. During a change project, users are an important source of information. However it is just lately that the benefits of user involvement have been truly noticed. The topic of user involvement and understanding users has been growing in importance in service and product development. It has been considered that it is a task of FM organization to understand the user needs well enough to implement changes that account them (Alexander 2001, 11). This research studies if a more user-centered approach would have benefits to projects, like realized in for example when developing services or interfaces. Miettinen (2011, 21) explains how the service and product design process is changing towards more user-centered. I believe new ways of user involvement can be found and implemented into the facility management and change projects as well. The next chapters introduce the topics and the areas where this study focuses in more detail.

2.1 Facility management

All businesses require facilities to operate from (Shiem & Then 2012, 70) and all facilities require management. Therefore I can agree with Alexander (2001, 2) when he says that facilities management is relevant to organizations in all sectors. Facilities management is the process by which an organization ensures that its buildings, systems and services support core-operations and processes. In addition to managing current conditions, it is essential function to meet the future demands. (Alexander 2001, 1.)

Facility management can be divided in multiple subcategories and streams. By one definition (Atkin & Brooks 2011,4) it covers real estate management, financial management, change management, human resources, health and safety, contract management, building and engineering services maintenance, domestic services, supplies and utilities. This is just one of many definitions and FM organizations are different between countries and even companies in the same area. Figure 1. Lists the most important areas of responsibility in facility management. The bigger the company is, the more complex the needs usually are. This also means a larger and more complex organization to support user needs. Also the size the organization has dictates how much the company emphasizes each sector of the wheel.



Figure 1: The FM pie. (Theriault 2011)

The figure 1. shows also how facilities management is in charge of projects, but also has other responsibilities and needs to manage a complex network of issues that are all connected. FM has to understand the corporate goals and strategy and plan the future actions accordingly. The projects are just one of the tools to accomplish the high level goals. FM needs to make sure the current services and premises work efficiently, but also plan on how to change. Pinder et al. (2012, 38) explain how buildings need to be continuously developed to keep up with the social, technological and aesthetic changes in society.

Facility management can be organized in many ways varying how much of the management is kept in house (Wiggins 2011, 40). During the last few decades the trend has been to outsource facility management, or at least services to companies specialized to the field (Alexander 2001, 9). Wiggins (2011, 38) explains that costs savings have been the primary reason for outsourcing. Benefits, such as cost savings, and more professional network of staff, are sought from outsourcing. Non strategic services such as maintenance, catering and cleaning are most typically outsourced. Outsourcing can range further to multiple and more complex service lines such as space planning, property management and even to human relations functions. Services can be managed via managing companies or doing direct contracts with suppliers. All of this depends on the company's FM strategy. Current trend is to bundle up service packs from fewer suppliers for easier control and integration benefit. This in theory less management would be required and efficiency in services would improve. (Wiggins 2011, 36).

In the recent years facility management has taken steps to become an even more integrated part of the business, not just maintaining services and facilities, but developing them aligned with business strategy. According to Atkin and Brooks (2011, 13) because of the increasing changes in business organizations, facility management is becoming more co-operative, proactive and focused on development, rather than focusing on efficiency of the current situation. To achieve the pre mentioned FM has to know the present needs and future state of the core functions. A facilities management strategy follows the corporate strategy to support both efficiency of the facilities and services but also to ensure core business to be possible (Wiggins 2011, 29). In this larger context the international facility management association, IFMA (2012) defines Facility management with a wider scope as "a profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process and technology". Facility management is becoming more a strategic function than an operation of efficiently managing the current.

For this research is it important to understand that facility management covers a broad arena of topics that affect the users directly and indirectly. This requires that FM both understands and is in close co-operation with user organization. Some of facility management is happening "behind the curtains", but a more and more of it requires user involvement and a good under-

standing of the user needs. The users present their current and future needs and the FM has a task to fulfill them efficiently (Siikala 2000, 191). These goals (cost efficiency and user needs) are not always opposite, but often require compromises. In the big picture FM has a goals and a strategy of its own, but the greater purpose is to know and support the users in their functions.

2.2 Project management

This thesis focuses mostly on a specific area of facility management, changing and developing space by facilities change projects. In more detail Rakli (2000, 29) defines it as "rebuilding" something to change its purpose or improve its usability. Most often also renovations, refurbishing or annual repairs are done during rebuilding (Rakli 2000, 29). Projects are according to Wood (2001, 147) usually lead by a team created from an FM organization. Finch (2012, 7, 11) describes that project management is becoming more important part of FM tasks. Technology, business and culture evolve and change the user organization and their needs. Eventually the internal changes in organization and the world start to affect to what is needed from the services and premises making the premises obsolete. The usable lifecycle of a space can be extended by physical changes. Also when relocating, the new premises most often need to be modified to fit the needs of the new users. Facility management constantly learns and studies the changing needs to support the core business. Needs that are valued important enough are sought to be fulfilled by launching a project. Projects are an efficient tool and a method for changing the physical environment. Wiggins (2011, 130) describes projects as "a significant, non-routine change, with defined objectives, a clear start/end, which requires an investment decision". Similar explanations are described by Ruuska (2012, 19) and Mantel et al. (2001, 2). Projects have a different approach and methods than the normal daily tasks and are implemented when the change is not possible to manage with the normal FM routine (Atkin & Brooks 2011, 54).

Projects have a separate appointed organization responsible for the decisions and management. Ruuska (2012, 21) and Wood (2001, 147) explain that a project receives resources and decisions from senior management and is responsible towards them while the project lasts. The decisions can be made for example by a steering committee with enough power to make decisions about the project and the influence it has to other parties (Wiggins 2011, 131). Project organization is lead by a project manager or sometimes several managers. Usually a project manager is responsible for proposing the needed resources (Birnberg 2008, 30). Project organizations vary from internal to completely external project groups. Projects however usually require more external and temporary roles, such as designer and consultant roles, that end once a project does (Ornstein & Andrade 2012, 100). As Ruuska (2012, 21) points out a project organization changes throughout the project and is dispensed at the end, which

makes using externals easier. The professionals required in the project team are based on the project scope, but most often require skills that are not available inside the organization.

The scope and goals of a project in facilities change projects are always a mix between the needs of a user organization and the strategy of a FM organization. The projects serve not only the users, but real estate owners, management and other parties whose requirements FM must respect. Shiem and Then (2012, 58) list an example of key issues in FM strategy, enabling the business, helping to improve the business productivity, managing costs and providing business process support. Projects begin by evaluating how much costs should be invested to accomplish the strategic goals. Projects have their own high level goals dictated by time, costs and performance (Mantel et al. 2001, 5). Wood (2001, 149) describes the main drivers as "cost and programme". The general level is always about reaching these goals and internal project issues related to reaching them. As the high level goals are secured a project has a hierarchy of priorities that it aims to fulfill. Project manager, as Wiggins (2011, 131) explains, has a difficult task to balance the interest of host organization, owners, users, project team and the project itself. Dettwiler (2012, 52) notes that a perceived need is a subjective and should be evaluated properly. Ruuska (2012, 162) describes that projects are always aimed to serve a certain user group, but the ones who make decisions about the project are not necessarily the same instance.

Setting up the priorities and goals begin very early before a project is actually even decided. Facility management evaluates and prioritizes issues and project proposals from many different perspectives. The evaluations and negotiations between FM and user organizations describe whether a project should begin. The earlier steps and decisions are the foundation for projects. Facility management and their understanding of the users is a key issue when considering how well the projects deliver to the end user needs. Projects always begin by discovering a need to change. The need can be found by a user or the FM organization. Atkin & Brooks (2011, 55) say that facility management is about helping organizations to manage change. The need to changes is about changing function or image and can be proactive or reactive (Dettwiler 2012, 43). Often the changes in facilities are reactive, for they are a result of an organizational change, and this pushes them to be delivered quickly. These initial factors determine much about how the projects are managed and create a special foundation for facilities change projects.

2.3 User-centered projects

To start a project user and their needs must be known. A modern FM organization is in close co-operation and communication with the users, to constantly stay aware of the user needs and the changes to become. In this way the changes can be known and anticipated proactive-

ly. Vischer (2012, 125) says it well; "Building occupants are the facility managers best resource". By knowing the users and co-operating with the users, preliminary phases of projects can be started earlier and more controlled proactive projects are possible. Ruuska (2012, 163) explains that in the early stages of a project the communication with users is crucial for the success for a project. Projects started with a good knowledge of the users start with a correct scope and goals to support the current and future needs. Also when knowing the users, projects can be prioritized in a more beneficial way to reach better value for investment. The importance and benefits of knowing the users and their needs is not promoted or studied enough.

When starting projects, the actions to fulfill user needs and the needs of management and project owners are defined into parameters such as scope, range, outputs, participants, budget and a timescale. This can be called a project brief as Wiggins (2011, 132) as well as Atkin and Brooks (2011, 34) do. These parameters are set up by the project owner, most often FM organization in communication with business management. If this preliminary state of a project is based on wrong or insufficient information the project will be a failure no matter how well it is managed. Building users are the key source of information about the use and function (Vischer 2012, 123). The FM needs to transfer all available information about the users to the project brief. In the later phases, the project organization has to study the users to recognize all user groups and learn their functions. Atkin and Brooks (2011, 58) explain that it is vital to consult with all stakeholders. Wiggins (2011, 56) points out that the user involvement cannot be over emphasized. This part of projects has proven to be difficult and it requires time, resources and skills that are often underestimated.

User involvement decreases after the early stages of the project. Ruuska (2012, 163) explains that later in the projects the communication with users decreases even if perhaps it shouldn't. The need for faster projects has increased and project manager spend a large part of the project adapting it to the changes required during the process (Mantel et al. 2001, 5). Involving users also later in the process is becoming more and more important. This has been according to Koskela (2004, 13) noticed and is becoming more relevant topic in project management. Projects are commonly closed organizations that act on reaching their goals without many links to the stakeholders. Creating more links and attaching the users into the whole project process might help reaching better solutions and to make correct decisions when compromising (Vischer 2012, 124). Tekes (2011, 28) and Ruuska (2012, 163) notice that involving users also creates an effect of empowerment that increases user satisfaction and lowers change resistance. It is important to remember that change is generally not welcomed and users need to accept the change at some level for a project to be successful (Wiggins 2011, 60).

It is clear that understanding users and involving them in projects can be beneficial. Ensuring that users are considered enough can be thought to be the main responsibility of the FM organization. Kärnä et al. (2010, 11) point out that figuring out the user needs is one of the biggest problems in reaching the wanted quality in building projects. In other fields such as service and product development an ideology of "user-centered design" is born to increase the user perspective. Erlhoff and Marshall (2008, 246) describe that "this design philosophy aims to improve usability by keeping the experiences of end users in mind at every stage in the design cycle". Sanders (2002, 7) has a similar description where the user-centered design process is focused looking for a ways how the thing or issue designed should meet the needs of a user. In this study I use the term user-centered to describe similar aim in projects. Kärnä et al. (2010, 13) point out that a user-centered, quality driven, approach is becoming more critical also in the construction industry.

Involving users is of course not only beneficial but can have negative effects as well. Issues such as increased time and costs or increased needs might be caused. According to Vischer (2012, 124) users might wish for more than there is time or resources to implement and when these hopes are not fulfilled a negative effect is created. Atkin and Brooks (2011, 50) describe that failure in communication will often lead to change process to be stalled. User involvement in projects is mostly limited due to the risks, but also because of the old traditions project and construction management. As the business, pace of changes and the needs are changing, so should the process of how they are managed in projects.

3 Facilities change project

Facilities need to be rebuilt to continue being functional. Changes are done to keep up with the technological development, maintain the buildings lifespan or support changing user needs. When the user organization develops, changes are usually required on the space they occupy. A trigger for a change can be anything from renewing workspace layout to a new brand and colours that need to be visible in visitor premises. Most often they are something related to workspaces and support spaces. Every company that has premises also has some change projects. Most larger ones also have their own process on how the change is implemented. The scope of projects and the organization that is leading the projects varies between every company.

In the next chapters I will explain facilities change projects in more detail. The important aspects in projects considering this study are the people, the process and the role of the users. First it is important to know the parties involved in the process. These are either the ones managing a project, anyone involved in one or affected by a project. They can be called stakeholders. The stakeholders play each a role in the process and they influence the results.

Secondly it is necessary to understand the process how projects function. Multiple sources are used to explain the typical phases of a change project. The process is divided into three main areas so it is easier to describe it. In the request phase the need is realized and evaluated and alternatives are sought, but a project organization does not yet exist. Next decisions are made about the project scope, project group is created, the project is planned and decisions whether an investment should be done are made. Finally the project is implemented, completed and the results are tracked. Many different names and variations can be found for the phases, but the overall pattern is always very similar.

Projects are about decisions and compromises to reach the most optimal goal within the given limitations (costs, schedule etc.). Making the right decisions requires user knowledge, a right project group and correct goals what the project wishes to accomplish. To develop the process towards more user-centered, the aspect of users and user needs has to be addressed more closely. The last chapters under this topic focus on users' role in projects. How much are they currently involved and what could be the risks and benefits of involving them more. These three main chapters create a base for the development process to follow later in the thesis.

3.1 Facilities change project stakeholders

Projects affect a lot of people that are in some way linked to the facilities. Everyone who has an interest about things that will change can be considered a stakeholder (Alexander 1996, 5). Stakeholders include main users, service providers, management, real estate owners and other parties. Stakeholders are the people who influence the project and therefore are important when describing the process. All stakeholders are not included in the project itself or even informed about it, but they might still have an effect.

A number of stakeholders wish to influence the project scope and outcome. Depending on the project and how it is communicated, stakeholders give a lot of input and information concerning their needs and wishes. A project is guided by its scope and what Wiggins (2011, 131) and Ruuska (2012, 145) call a steering committee. Wiggins (2011, 131) explains that a project considers the needs of other stakeholder once the management and steering committee priorities are accomplished. Often different opinions are presented between stakeholders that require project to make decisions on whom to listen. Ruuska (2012, 165) explains that users may have hundreds of opinions and it is simply impossible to take them all into consideration. Projects usually have a clear decision making hierarchy, but most of the decisions fall on the project manager.

How much empathy the project gives to stakeholders needs and who it prioritizes depends on how the projects are managed in that organization. Also it depends on the planners and designers and their ways of working. Listening to all user needs is impossible and every new stakeholder involved in the project increases the risks. Then again not researching the user needs enables the project to make wrong assumptions and bad decisions based on lacking information. Vischer (2012, 126) describes how facility managers have a lot to say to who the project organization discusses with and what kind of information they receive. As Wood (2001, 148) explains the projects are made to support the business and FM has to know the business needs. In a certain way FM acts as a filter and chooses who is important for the project and who is not. These decisions on whose input is not important affect the project results greatly. This also brings up an interesting point that to be successful the project needs to learn if the FM is to be listened or whether more direct information would be necessary. Very often the information on what the decisions are based on is not adequate or reliable (Vischer 2012, 126).

3.1.1 Facility management organization

Facility management has a large role on change projects. FM receives and researches user needs and plans projects to keep the facilities so they support the core functions. Atkin & Brooks (2011, 13) list that the first task of FM is to maintain and improve the current services and functions. The second is to take account the potential changes faced by the organization in the future. The initial phases of a project are managed inside the FM organization and become a project only once the need to change has been evaluated. Facilities management organization is in a central role in whether the projects succeed or not.

Projects are started by FM or business realizing a change or an opportunity is about to occur or already occurred that might affect the premises. This according to Wood (2001, 148) and Smith & Love (2012, 78) leads to a discussion between FM and management about what should be done to support the core functions. When creating this decision a strategy for facility management and business collide. Rondeau et al. (2006, 183) points out that a planning should be interactive and proactive. The more their targets are aligned, the easier the solution is for both parties. For this reason facility management is usually represented also in the business management. Information and strategy exchange is essential for producing a good "game plan" (Rondeau et al. 2006, 76). Once a common alternative is found a facilities change project is organized, started and most often managed by FM organization. Wiggins (2011, 130) explains that FM also usually holds a role in the project and most often appoints the project manager from their organization. Also Koskela (2004, 12) agrees that organization responsible for the constructing, selects the ones who manage the project.

During change projects the FM is the source of information and guides the project in many ways. Wood (2001, 148 - 149) explains where the project itself has main concern about their goals, FM is concerned about minimizing disturbance. Project group also receives information about the users from facilities management. Larger companies have a set of standards such as explained by Rondeau et al. (2006, 345) rules and plans that the project must follow such as space efficiency, material choices, technical standards, ergonomic requirements and other concepts. Facility management dictates the standards their company uses and these become included in the project scope. Many of the standards differ between cultures and industries and are not possible to leave as a choice for the project itself. For example the average Sq per worker is highly different between China and US (Miller 2012, 7). Also FM sees that the service and environmental (waste, energy) costs that the new premises produce follow the company goals.

3.1.2 Management and project owners

Projects always influence a lot of different user groups and many wish to have their own view taken into account. The decisions concerning projects are made in a smaller circle I will in this thesis call management. Management parties are the individuals or groups that have power to manage the project and make the high level decisions concerning it (Koskela 2004, 12). They control the real estate property that is altered, manage the business that is affected by the change or participate in the financial investment that the project is. Management makes the high level decisions such as starting the project, approving the concept and scope, investing, and changes to budget and so on. Management is high in business hierarchy, real estate owners or in some way responsible for the investment. They are higher in the hierarchy than the project manager and so have influence over the project, even after it has been approved. The management views are represented in the steering committee, but also influence before the project has begun. As Howard Birnberg (2008, 105) states owners and management have their role in the project from the very beginning.

The real estate owners always have a say whether changes can be made to the property. This is most often dictated in the agreements between owner and the tenant. The owners' primary concern is that the change will not lower the value of the property. They might have specific demands about the change in order for it to be beneficial for them. Atkin & Brooks (2011, 40) point out that such issues should be known when making strategic real estate decisions. The real estate owners often also invest to maintain the buildings lifecycle and to develop the property. It is to their benefit if the occupants remain satisfied. If the company making changes owns the facilities, it makes the decisions easier. Still most often the benefits for a project are mutual and the owners have no objections for implementation and the negotiations are about the amount of investment from the owner.

The changes affect the business in multiple ways. Mainly by changing the facilities where the business operates, but also by creating temporary disturbances, such as moves. Business approval is sought to confirm that the changes align with the business strategy. Rondeau et al. (2011, 179) explains how real estate part of FM pursues the objectives of the strategic business units by acquiring, managing and disposing real estate. Business management approves that the investment planned, creates enough value that it should be implemented. The approval is also for the level of disturbance that it can be inflicted to business continuity that Wood (2001, 148) sees critical. These initial negotiations are between the FM and management. An agreement between the owner, FM and management empowers a project over most of the stakeholders that might in other situations disturb the project. Also a project needs an approval for the investment. This is often approved in multiple stages by first approving the planning and then the final investment. Once a final approval is given, a project group gains funds that they can use to implement a project. The investment is often approved parallel to the business approval when scope, schedule and value for investment are discussed.

Once a project has management approval it has a high mandate over most issues concerning the stakeholders. Ruuska (2012, 167) makes it clear that the project steering group should have enough power to represent the best interest of the management, without any more involvement once the project is ongoing. The project is in fact fulfilling the business strategy and management decisions. Therefore for it to stop or change it needs one of the approvers to take action. Project manager reports directly to the steering group. Steering group makes decisions on all major issues during the project. This stops the lower hierarchy from influencing the project directly in an unbeneficial way. Wiggins (2011, 131) explains how in the beginning it is agreed with the steering committee on what issues where they wish to be contacted and reported to during the project.

The relevant management parties vary in each project. The decisions are sought high enough to have an investment approved and for the project to go on undisturbed. Each part of management and steering group has a different perspective and priorities. In the end the important decisions are done inside the business organizations, not inside the FM or project organization. The power is directed to FM and to the projects for a limited time. So most importantly the business should have the right participants sitting where the decisions about these projects are made.

3.1.3 Project organization

A project can be organized in multiple ways depending on the scope and scale. Typically a change project has a project group led by a project manager. In this thesis I will shorten the term project manager as PM. Birnberg (2008, 31) and Ruuska (2012, 137) describe how a project manager is responsible for supervising all phases of the project including resourcing, scheduling, cost control reporting and so on. Simply put a PM is responsible for the project and the actions of its members. Project manager manages a group of people by delegating responsibilities to team members. He/she reports only to specific members of management or a steering group. Steering group is chosen by the management. A steering group has the final say on the project, changes and most of all the financials. A number of smaller project groups and work teams can work under the project manager or main project group.

The project team members are most important asset to the quality of the project (Wiggins 2011, 140). A project group contains professionals and other participants necessary to manage the project tasks. Project manager and designers are selected from outside the organization if necessary professional skills are not available in the organization (Koskela 2004, 12). As explained before often the project manager and some other project team members are chosen from the FM organization. Birnberg (2008, 30) says that a project team members are partly appointed by management, FM and some are requested by the PM. The core team can be from the company itself, but usually a number of external professionals, such as designers are required to have all the necessary skills available. Wiggins (2011, 40) agrees that project teams include several disciplines from different departments and organizations. A facilities change project group typically consists of at least project manager, planners (architects, technical planners), assistant functions, consultants and some other specialist depending on the scope. A project focusing on changing video conferencing equipment might for example contain a designer specialized in such equipment and the main service provider. The group normally changes and grows as the project goes to new phases.

Figure 2 is an example of project group where I acted as a project manager. The project was about moving and refurbishing office space of about 800 users. In this project the initial project group consisted of project manager, an FM representative and a space/occupancy planner. Initial project group was appointed from resources that were from the FM organization. Once the project investment was approved, more resources were included into the project group and the roles changed to a traditional setting where a project manager leads a designer team and a consultant is responsible for official documents, legal issues and governance. Project remained in very close communication with the original FM organization until the very end.

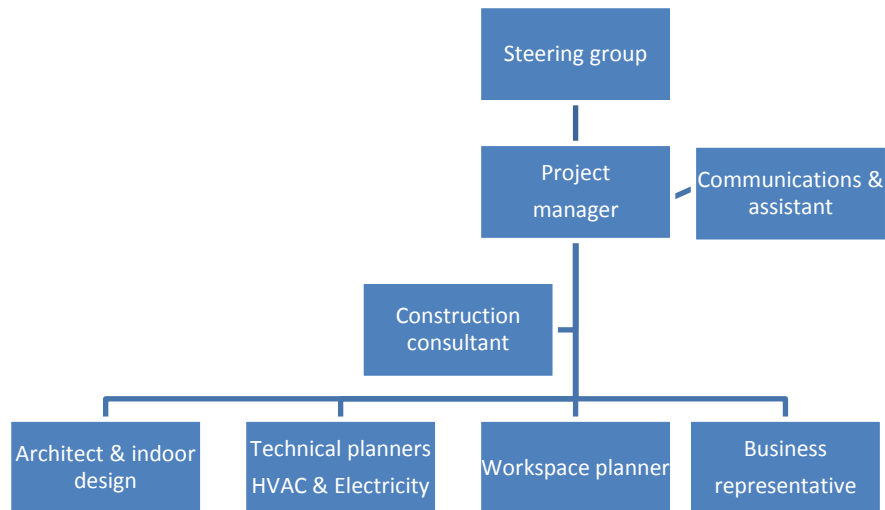


Figure 2. Example project organization

A project core group is usually formed after the project gets an initial approval, after a feasibility study. Although Smith & Love (2012, 78) represents an opinion that a design team should be gathered in the very early stages of the project where even the project scope and budget are still to be decided. This could provide alternative solutions and views. The when and how to form a project team depends finally on the company and the project. No specific way of organizing a project is universal. I agree with Birnberg (2008, 32) that at project manager should be chosen in very early to get the project on a professional track. Wiggins (2011, 140) says the whole team should be established as soon as possible.

Even if most, if not all sources agree on the importance of choosing a properly skilled project manager and group, I found very little discussions or studies about who should be included in to the project group. This varies between companies and projects. Birnberg (2008, 53) examines how personnel planning affects budget and costs of a project. He also states that choosing the personnel is mostly done based on human evaluation and is not an exact science. It is important to understand that a project group defines a lot of the information and priorities that are discussed within the project. Wiggins (2011, 40) explains that the team itself reflect to the nature and scope of the project. While a steering group or management approves the project scope and goals, the project group chooses the details and means to get there. These details actually define the quality of the project. To achieve quality, the project organization should contain a wide range of members from different organizations (Birnberg 2008, 3).

3.1.4 Main users

In this study I will call the primary organization, using the premises and affected by a project, the main users. The main users focus on their core function and are mainly not concerned about facility management or any space related issues. As long as the premises and services support their work, they focus on their operation. Once their organization or ways of working start to change, the premises need to adapt to their needs. Users require their premises to change as their work or organization change. As Shiem & Then (2012, 61) say, the planning of all workspace should be a response to specific business needs and corporate drivers. The change in work environment has been significant and is increasing pace (Atkin & Brooks 2012, 134).

Users represent need for changes and the business hierarchy itself evaluates if they are necessary to fulfill. Needs are then discussed between business managers of appropriate level and FM organization. The level of management the negotiations are held depends on the scope of the changes requested. Shiem & Then (2012, 70) describe that proactive facilities planning and managing requires input and directions from business's senior management. Also Rondeau et al. (2006, 183) say that the high level decisions should be results of a co-operation between corporate functions and FM. Without user and management input and contribution the FM does not know what kind of changes are required or realizes them too late to keep up with the needs. So in order to be successful, FM needs to be included in organizational strategy and planning. Tekes (2011, 25) explains this shortly that workplace changes should always be based on the organizational vision, strategy and goals.

In addition to strategic level the main users have needs as a company. These are often presented in shape of company specific concepts, standards and guidelines. These can be represented by for example goals such as space per user as explained by Wiggins (2011, 143). The space represent its users in design. This is shown for example in brand, colors used, logos, technology and other design solutions. On a more detailed level the main users have different kind of user groups with different kind of needs. For example an office user might require open environment with a lot of communication or a complete silence and concentration. Also the visitors can be considered as the main users. A project changing facilities should be aware of the users and their differences. The space should serve each user as well as possible.

It is commonly agreed that workspace affects productivity substantially. Atkin & Brooks (2011, 133) suggest that workspace issues affect productivity even up to extent of 50 percent. They summarize workplace productivity factors under four topics; work, organization, communication and working environment. The needs of different user groups must be recognized when a project is started. Kärnä et al. (2010, 20) explain that for facilities to be usable the

different user groups and their needs have to be recognized. This is one of the most difficult tasks. To achieve this lot of knowledge is required of the user. FM organization should know the users in some extent, but also the knowledge must be collected by the project itself by getting to know the users. The difficult part is to recognize other stakeholders that should be involved and heard. Vischer (2012, 125) describes the user involvement, when carefully planned, is beneficial to both project management and users. Questions about who should be involved in the project, how and in what phases are the key elements to this study. Also it is important to understand that the decisions makers do not necessarily know the actual low level users that well. The project itself has to learn how they operate or as Ruuska (2012, 166) says it have to put themselves in the users position.

3.1.5 Secondary users

Facilities are also used every day by a large group of other personnel that ensure the function of the facilities and services. In this thesis they are called secondary users or services. Secondary users are responsible for functions such as cleaning, maintenance, logistics, restaurants and other daily processes required to keep the facilities operational and the user needs fulfilled. This group of users work in the facilities daily operating their tasks and is essential for the main users to keep working without disturbance. The main users value the facilities with four aspects; location, functionality, image and services (Riihimäki & Siekkinen 2002, 37). Still it is often said that if facility services work well, they are not noticed. The design solutions affect a lot to whether these services are easy, difficult or impossible to provide. This makes their needs as important as the main user needs. Facility services in the private sector are most often outsourced and managed by external companies governed by FM organization (Partanen 2003, 13).

Secondary users are mainly interested about material choices, logistics and support facilities, energy consumption, building technology and equipment that affect their work. These issues are not part of the main user core business, but significant in order to keep the facilities efficient, sustainable and suitable for main users. Taking the service provider needs into account makes providing these support functions easier and more cost effective. Still these user groups are often neglected in the projects and their needs are considered to be secondary (Partanen 2003, 25). Even in cases where the service providers are included in the planning, the needs presented by them are most often required to prove long or short term cost savings or benefits to the main users to be approved. Unfortunately quite often service providers are not consulted at all during projects. Partanen hopes that (2003, 10) the project management should have enough understanding to include the needs of facility services as part of the new requirements. Also it can be argued if the traditional design professions alone have all the required information to design facilities to be functional for the secondary users.

3.2 Facilities change project model

Each change or development project starts with a need to change something. This can erect from users, FM or physical requirements of the facility going obsolete. This thesis only studies changes required by the user, management and FM. Repairing and renovations required by the building going physically obsolete are not relevant, if the user needs have not changed. Once a need has gained some importance, an organization responsible for facilities and services (facility management), sets up a project to find a solution. A project group is created. The raw information and need is developed into a plan that solves the need of the user and is align with the company strategy. And finally the plan is implemented. The process from need to completion is a complex one with different organizations, phases and milestones. In the next chapters will explain the process how a need develops to a project and what are the steps taken during projects in general.

Rebuilding projects are similar in their overall form. The phases recognized by all are according to Koskela (2004, 14); need evaluation phase, project planning phase, designing phase and implementation phase. The phases are represented in figure 3. These general phases are typical in all project working. Ruuska (2012, 34) also introduces a model, where the main phases are starting, building and completion phases with several sub-phases. There are multiple variations on how to name the phases and how to categorize them.

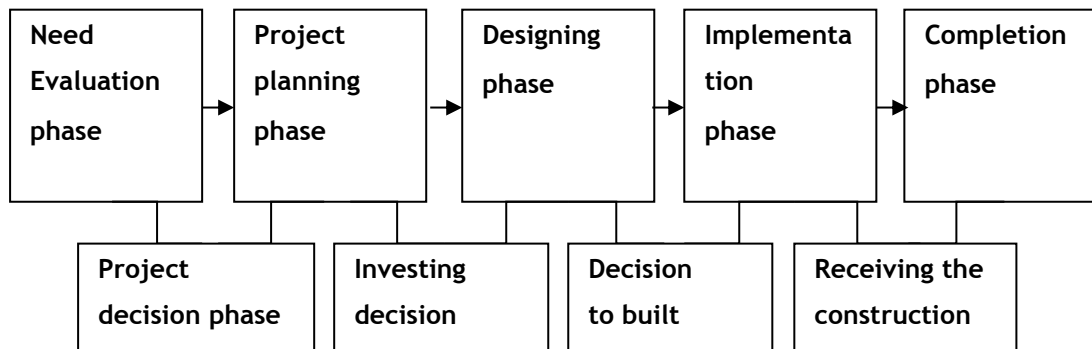


Figure 3. Construction project phases translated from figure by Koskela (2004, 16).

Several smaller phases can be recognized from any change project. These phases can be of different length and importance but still they mostly remain the same. Projects vary in scope, participants and sub-phases. Figure 3 represents also a more detailed level of the project flow. Projects change much more than just the physical environment. The projects change the environment where the users function and make possible for the users to change their ways of working. The change model Finch (2012, 13) uses is in this way very suitable to describe the change process in general level and from the user organizations point of view.

To explain the process in more detail I created Figure 4. based on project early phases by Smith & Love (2012, 81 - 84) and building project phases by Birnberg (2008, 104). It contains a more detailed phases and major milestones of a project. This model acts as the foundation for the later research phases of this thesis. The figure also represents the major milestones and the organization in the biggest role at that time of a project.

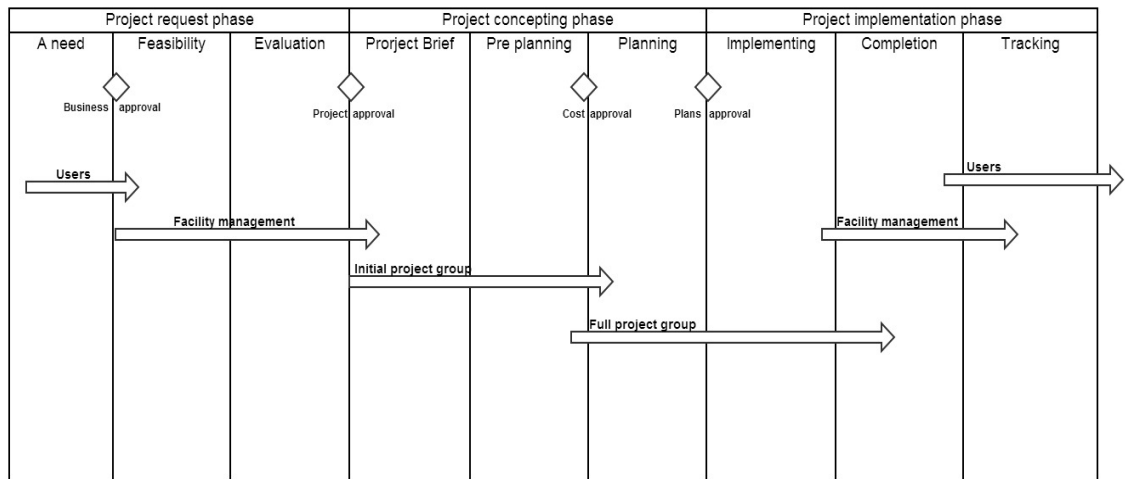


Figure 4. Facilities change project phases

This figure helps to describe how projects phases are divided in this thesis. It should be remembered though that while projects can be presented in such manner, they are usually not so straightforward in real life. Many projects take back-steps, get shut down or go through major changes before reaching the end. Some phases might be added or skipped, depending on the project and the organization that is implementing one. Information in projects always flows along the process from general to more detailed. In every phase of a project, more detailed information is required (Garcia-Diaz & Smith 2008, 5). Also the information is processed by the organization in charge of the project and phase. In previous chapters the organizations important to a project were presented. Next chapters present a typical order for a facility development project and what is done in each phase of the project.

3.2.1 Project request and evaluation phases

Every project begins with a need to repair, develop or change something. Sources for a need are usually from few reasons. First by obsolescence of buildings, materials items and infrastructure (Pinder et al. 2012, 27). Secondly from developing technology, culture, legislation and business. Thirdly by organizational change. Dettwiler (2012, 43) phrases it really well; "Organizational change becomes physical change through architecture".

A need can be recognized in few ways. The changes most relevant for this research are the ones resulted by larger organizational changes. They are discussed already on management level when creating strategic choices and investment plans. According to Atkin & Brooks (2011, 64) the projects enable the organization to implement their strategic goals. In my experience bigger projects begin after a larger organizational change. As Shiem & Then (2012, 60 - 61) describe that rather than reacting to needs from business, should space planning be a proactive, a joined venture with business management and FM.

Needs can also emerge directly from single users or user groups. Most common needs are lack of workspace or a need for specific kind of space qualities or equipment. Users search for FM assistance when realizing their needs have changed or about to change. These kinds of changes are usually smaller, more frequent, schedule intensive and often implemented quickly. These kinds of needs are more reactive, but they are also implemented with a smaller scope and fewer parties involved. Things such as outdated worn out facilities, out dated IT-infrastructure and old furniture are planned to be renewed by FM even without user feedback. For example just five years ago wireless connections were not really adequate to support whole office premises. Another example is furniture that was suitable 15 years ago is now considered un-ergonomic. In such cases the projects usually combine the renewals with strategic goals when rebuilding things to better fit user needs. FM also scouts out for changes in company and country specific legislation and regulations to keep facilities up to date. In these cases the change is planned and implemented when a suitable moment arrives in terms of investing and implementation.

There's two ways for the need to travel to the facility management from the user organization. It goes up the hierarchy inside the business organization and gathers momentum and comes to FM from the business management. Usually this way it has already gathered business approval and most likely to start a project. The other way is for the need to go directly to FM from users requesting changes. This way it usually requires confirming, multiple requests and approvals to gain enough importance to reach the next phases. Single user needs are to be confirmed from the contacts FM has with the organization. Both routes of contacting require the need to gain approval from business before the FM takes it into consideration. So the user organizations filter quite a lot of requests before they reach further. Wiggins (2011, 11) points out that FM is in a continuing relationship with the end users to be effective. FM quite often has contacts among the user organization that are responsible for such issues.

Once a request has enough support from a business it goes through a quick phase of feasibility study. This is a short phase where the FM considers if the request is feasible and what kind of options would solve this issue. Ruuska (2012, 35) explains that the study confirms that a project supports the organizations overall strategy and needs. Other ongoing issues or projects

might render the solution impossible or it just might not align with plans ahead. FM always has plans for the future use of facilities, which have impact on premises and possible projects (Finch 2012, 23). These plans are not shared with most users before they go further into operation. Based on whether fulfilling the needs fit the plans, they might be put on hold or rejected for them not being feasible at that point.

Feasibility study is often not presented as a phase at all, but included in the evaluation process. I however think it should be considered a separate phase, for it is different enough from evaluation. Feasibility is a brief phase where it is decided if time should be put into further research. Many projects are ended before further evaluation. This saves, as Ruuska (2012, 36) explains, time from evaluating and planning projects further. Especially when changing facilities the project has to align the overall strategy. Also as a result of feasibility study it is recognized if the issue is urgent and what is likely to happen as a result. This is kind of an early sign if the project is major or minor one. This helps FM to prepare for the project ahead.

Once a need is feasible it will be evaluated. Evaluation will end to a decision what actions are needed to solve the situation. Evaluation phase determines if a project is started and what is the high level scope for it (Koskela 2004, 14). To assess if a project is started requires a deep insight of the company's business and future plans. This evaluation is a combination of different analysis and future plans. Dettwiler (2012, 51) shows the process well in the figure 5. The figure shows how different kinds of methods are used by several organizational units and the data is combined to form a decision about the project. An external company can present different alternatives to solve the need, but the final decision is always a result of a discussion between FM and business management. This can only be done by FM being in close interaction between management. Facilities planning should be proactive and decisions should be aligned with corporate strategic choices (Shiem & Then 2012, 60). Atkin & Brooks (2011, 13) propose that the starting point for managing the facilities is the organization's business plan together with its accommodation strategy. Business is considering what is really needed to support their operation while FM is appraising what kind of investment is suitable to accomplish this. As Dettwiler (2012, 49) describes planning changes is about finding right data at the right time.

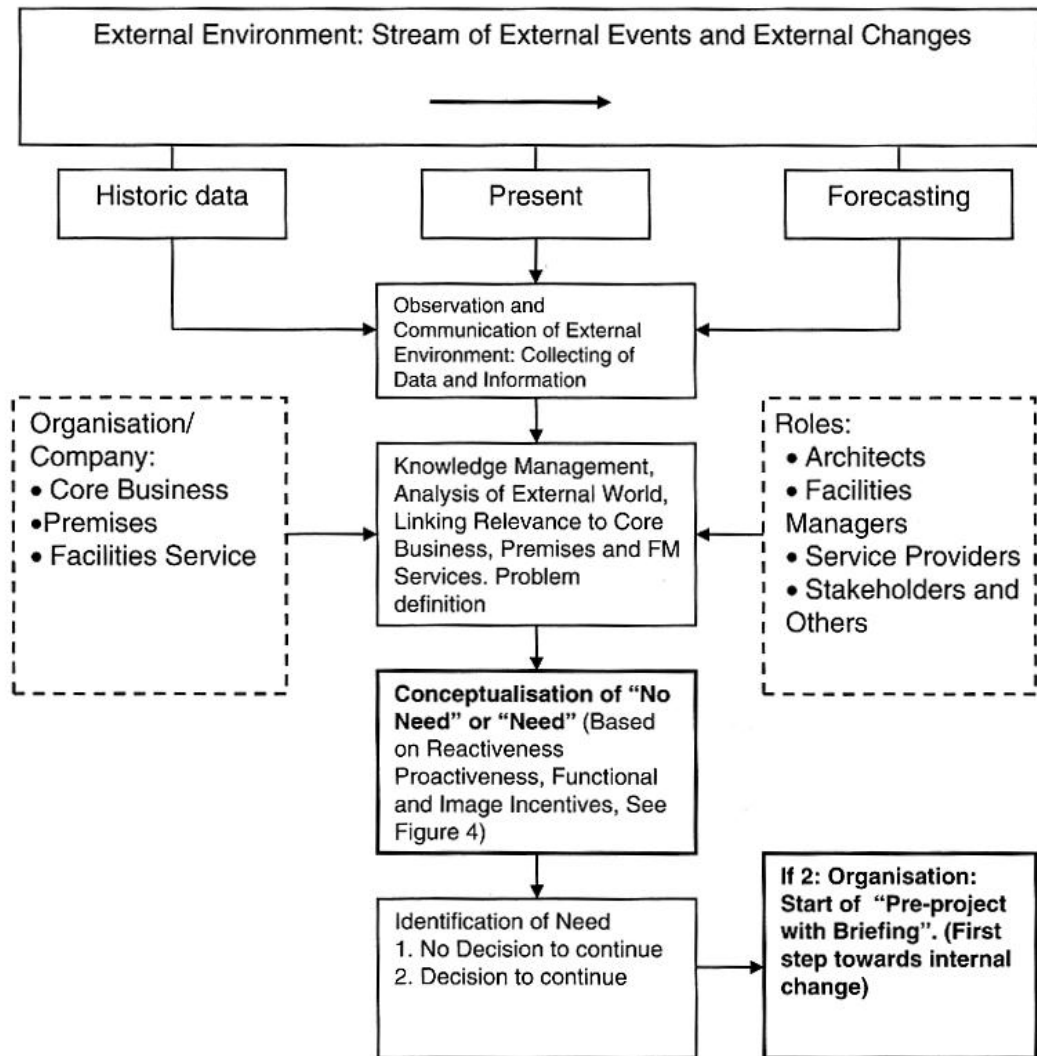


Figure 5. Flow from external changes to organizational change (Dettwiler 2012, 51)

The more accurate and more concrete the issues are the easier is the decision. Needs such as failing building infrastructure or the number of workspaces are measurable and can be presented in hard data. On such cases the options are easily summarized and a value for each can be appraised to help with the choices. If the issue is more abstract in nature, the decisions are made based more on the company strategy, image, financial situation and management opinions. On such occasions the benefits of a project are hard to measure. For example Tekes study (2011, 25) explains how space affects the users way of working. Measuring the benefits is hard if not impossible. Another good example is the visual aspects of space. Tukiainen (2010, 52) represent's in her book Luova tila that workspaces have an impact on workers happiness, efficiency and most of all creativity. Atkins & Brooks (2011, 133) claim that workspace quality may affect productivity by even extent of 50 percent. These however are not parameters that can be easily measured. Dettwiler (2012, 54) says that it is difficult

to appraise if a need is real or not. To my opinion it is better to search for what value the investment would bring. Also as Atkin & Brooks (2011, 55) say is It important to understand the organizational reasons behind the presented change needs.

Birnberg (2008, 99) explains the design process to include 4 phases. Information gathering and analysis he presents start already in this evaluation phase. It is important to understand that facility management starts to form the project by evaluation phase before an actual project exists. One of the most important parts of a project is done before a project and its organization exists. Once the evaluation phase ends the project proceeds to planning phases and starts transforming to project mode of working.

3.2.2 Project planning phases

After the evaluation the project starts taking a more concrete shape. Project brief as explained by Wiggins (2011, 133) is a transition from evaluation data to an initial project scope, schedule, goals budget etc. At this point the project owner sets up a high scope concerning the size, quality, costs and schedule (Koskela 2004, 14). Ruuska (2012, 36) explains the brief is created by the corporate management and rarely has an exact form. This and the evaluation phase are crucial as they define the project and the direction taken at this point is rarely altered later. Decisions made on this point should be carefully planned with a broad view and all possible solutions considered. Smith and Love (2012, 78) promote the view that most significant decisions are made at the inception and pre-design stage. Project brief creates boundaries and guidelines for the project that are followed when planning continues. A brief might be very clear or it might be still a task where certain things need to be clarified in later planning phases.

When creating project brief the role of facility management professionals is in key position. Smith and Love (2012, 77) describe that facilities managers have the skills, knowledge and capability to carry out important activities in the early stages of a project. During project brief phase a project assignment is handed out to a project organization and a project manager is chosen. Project manager from FM organization might have been present in the early stages as well, depending on the organization. For an external project manager a brief is given out by corporate management and a steering committee is created. At this point the responsibility is appointed to a PM and the steering group.

Project brief handover shifts the power to a new organization. The new organization acts based on what has been agreed this far. Misunderstanding and failure to describe what is wanted will lead to massive problems later. Birnberg (2008, 111) points out that it is not uncommon for designer to fail to understand what their clients need. Users have different per-

spective and what the designer might think is a best solution in every case, might actually not be that for this user (Riihimäki & Siekkinen 2002, 37). Planning something that works well is different from getting it just right. It is often issues of functionality, image and quality that go wrong. This is one of the most influential points of a project considering quality, cost and time for the project (Smith & Love 2012, 77). Getting them right requires knowledge of the users that the project group is not familiar with. A lot is dependent on how well the FM knows the users. As Vischer (2012, 125) proposes, a partnership between users and FM is a key to creating successful change projects.

Once frames for a project have been created by the brief, it is time for planning. Often a smaller pre-planning phase precedes the planning for two reasons. The full planning phase creates substantial costs and a group of externals are required to attend. In pre-planning the resources can be kept minimal. Also the pre-planning works only on concept level to help the decision making (Koskela 2004, 15). A term PDE (pre design evaluation) can be used to describe the phase (Ornstein & Andrade 2012, 94). The phase requires a lot of work where the full design team and project group is not yet necessary. The brief that described "what" is turned out more towards "how" and "by who" by creating high level alternatives. At this point different solutions, possibilities, risks and problems are sought. High level quality solutions are chosen and non material aspects are discussed. Ornstein & Andrade (2012, 93) list that alternatives may include first ideas for design, general concept, various scenarios and financial liabilities. Possible options for designers and contractors will be sought. Sometimes designers are changed at this point or alternative solutions are sought from many designers to find a best match.

Importantly at this point the project group starts researching the limitations and current situation. This includes researching the environment and building, but more importantly researching the users and their functions (Ornstein & Andrade 2012, 94). To this point the project has received information mostly from FM and management, now it has more sources for information. Birnberg (2008, 99) divides the design process into four phases where the first one is information gathering. Partanen (2003, 25) promotes how it is important to understand all the users and their processes that they operate during planning. Pre-planning creates a direction and further guidelines for the planning as the brief and evaluation did for the whole project. Pre-planning phase usually ends in a high level project plan, budget and a schedule that are approved before planning continues with full force. The pre-planning phase usually brings up more detailed information that can change the project scope, initial evaluated investment or even end the project

In the actual planning phase the detailed solution and implementation plans are created. The purpose is to create plans that can be implemented to solve the need within limitations given

in the previous phases. In overall planning and design proceed from conceptual to parametric to detailed (Garcia-Diaz et al- 2008, 7). The conceptual (scope, goals) and even parametric (budget, investments plan etc.) planning has begun on previous phases of the project, but the detailed planning does not begin until this phase. Ruuska (2012, 165) thinks it is at this point where the user needs can be mapped in more detail. Planning normally takes some 10-20% of the project overall cost (Tilastokeskus 2001, 23) and for that reason often started only when everything is confirmed and approved. The designing comes with a number of constraints explained by Birnberg (2008, 98). Unavoidable constraints come from the society, regulations, technology and the physical things from the facilities under work. Many of the constraints were created by the earlier phases when evaluating and creating a scope and goals for the project. Designers have knowledge over their own field of expertise and they are responsible for the plans to fulfill these aspects. It is however the PM's job to make sure the designers are aware of the limitations that come from the user organization and earlier decisions.

During the planning phase the project organization grows to its full scale. Ruuska (2012, 37) explains how the organization grows in numbers when the project goes onwards. He (2012, 155) points out that the goal is usually to keep the group small and effective. Planning phase involves a project group, decision making steering group and a number of members to manage different functions of the project and provide information to planners. Project group most often has a core group of designers, planners and professionals. A number of secondary members might attend to assist and comment on various things. For example networks, business communications, public relations, FM service providers and user representatives might attend the planning in some ways. Most often many external designers and experts are required to get all the different aspects planned and considered.

Planning is in many ways more controlled and limited than the previous phases. Many things are dependent on the right designers and planners. Planning phase results in plans, blue-prints, detailed budget and information used to build and implement something that solves the presented needs (Koskela 2004, 15). Unlike previous phases, planning often continues overlapping the implementation for plans are never 100 percent executable. Birnberg (2008, 100) says that problems, questions and issues become apparent also during the implementation. Changes to plans are to be expected and even more if the initial phases have guided the project towards false goals.

3.2.3 Project implementation phases

Once the plans reach an appropriate level and are agreed, the suppliers and contractors are selected. During the phase the plans and design are presented to contractors and they reply with a quote or a proposition how to build. The bidding is done by the project group and the

suppliers are proposed by the group by evaluating the bids (Rondeau et al. 2006, 328). The project group may negotiate and guide the project manager in choosing the suppliers, but the final decision is made by the PM or often the steering group (Birnberg 2008, 105). How and by what kind of documents the tendering is done depends on the planning phase, organization and the readiness of the plans.

Tendering often confirms that the budgeting and costs planning were done accurately. Also often it is realized that costs might need to be cut for the solutions do not fit the budget (Wood 2001, 150). Building is often about making the best compromises. The first changes to the plans occur already during tendering. This is for several reasons; costs are too high, contractors do not agree on schedule, companies giving out quotes might not have the products or skills presented in plans and they often present alternative solutions. All this requires negotiations more planning and possibly changes to the plans. Wood (2001, 150) describes that most often professional advice and assisting might be needed to evaluate the quotes. Even if changes to the plans start to occur according to Ruuska (2012, 166) the users are rarely involved anymore at this point. During the tendering the project becomes more closed and the circle of participants is smaller. Choices are made based on designer propositions costs and other factors (Birnberg 2008, 150). Products such as materials, items and furniture might change during tendering. The changes need to be carefully considered. Different users and stakeholders participate during the planning and previous phases of the project but are often closed out when making changes. This might create problems that are realized only in very late during the project or after it has finished.

During implementation the constructed plans are put to reality by contractors and suppliers. Koskela (2004, 16) summarizes nicely that It begins by making a construction contract and ends when the building is finished. Once the suppliers are selected the project organization sees that everything is done following the plans, in schedule and within agreed costs. The success of planning is measured when implementing the chances. Project team reacts to problems, changes and makes alterations for the project to stay on course. Atkin and Brook (2011, 60) note that changes are to be expected in most projects. Successful project requires negotiation, compromises and commitment of everyone. Changes during implementation are harder and more expensive to execute. Ruuska (2012, 43) as well as Atkin and Brooks (2011, 60) explain that all changes create costs and make the project harder to keep in the agreed frames. Changes are most often avoided and more major changes need to be agreed by the steering group. The interesting part considering this study are the changes done to the original plan. Changes are most often done due to schedule, cost or functional reasons. These changes should follow the original goal and keep the user need in bright focus. However, as said before, users are often not involved during the tendering or implementation phase.

The implementation part of the project will go forward quickly and mostly unaltered. Project is guided by design and construction meetings. Members outside project group are not much included into the project. As the saying goes "don't judge for this is unfinished work". Bull and Brown (2012, 120) and Partanen (2003, 20) argue that users should be able to participate and communicate during implementation as well but often it is not so. Communication between users during construction is mostly one way flow of necessary practical information on how the changes will affect them. The importance of this communication is however accepted (Wood 2001, 149). Atkin and Brooks (2011, 58) also promote the importance of communication towards the users. Stakeholders will usually see facilities when something is ready to be taken into use or just before this to test the new facilities. Common practice is to let the secondary users in before the main users, so the services are ready to begin once necessary.

Projects have a number of actions to complete once the implementation is done. This can be called the completion phase (Wood 2001, 152) or the handover phase (Wiggins 2011, 141). Documentation, legal works, reporting and cost calculations need to be finished and published (Rondeau et al. 2006, 328). Work needs to be evaluated and all problems fixed before the handover. The final result is compared to the plans. At this point the new facilities are given back to the FM to control (Wood 2001, 152).

When judging the project outcomes there are two things to consider. Mainly did the project reach the original goals and scope set out for it. This is done by the management, facilities management and project group. If clear goals and project scope existed, this should be rather simple, most things can be measured in quantity, costs and quality. The project group helps in evaluating if the construction work is as they planned it. Secondly, do the new facilities create solution to the needs presented. The outcome of the user satisfaction is more complex. Van der Voordt (2012, 152) explains how users evaluate, not only the hard factors such as air quality and ergonomics, but also soft factors like indoor design, colours and atmosphere. Finding out what the users like is not an easy task and often is much about the intuition of the designers. Soft factors are personal and often follow the cultural and corporate trends of the time. Inalhan and Finch (2012, 168) describe how the change affects the users behavior and how "there is a common neglect of the employees' experience of change". Users may experience the new environment badly just because the whole change process has been badly communicated. It is important to realize that changes affect the users work, emotions and daily functions in a personal level that can't be understood by the designers. It is much about managing change is communicating what is done and why. For example if users expect too much from the change it will affect their satisfaction in a negative manner.

Ruuska (2012, 164) explains how the project group can influence on the users opinion of the change during the project also by unofficial ways. Wiggins (2011, 59) lists several ways to try

to change how the users think about the change. Managing change should begin in the very beginning of the project. It is about managing the stakeholder, but also should be about the users managing the change inside their organization (Tukiainen 2010, 12). She also describes how the best workplaces include the workers into the process of changing their workplace and working ways. Change management is a complex topic and is a big part of project management. It is a massive study topic of its own. During this study I will show only limited interest towards it in order to maintain focus on users' involvement and development of the process that projects go through.

In the completion phase the users get to evaluate the changes made for them. The users should be introduced to the new facilities and products in a profound manner. The project should stand behind its creation and be still visible. New facilities should be used in new ways so the user organization starts to adapt when moving to new premises (Tekes 2011, 28). Presenting and handing out information saves a lot of unnecessary communication and frustration. As Wiggins (2011, 141) says users need to be introduced and trained to use the new space in order to avoid questions and problems. Also it helps to lower the resistance towards the new premises. A lot of problems are noticed instantly when the facilities are taken into use. Often mistakes and errors are found and smaller changes are required. The users give their professional and personal opinions of the workspace. Project organization and management involved need to stay visible and stand behind the decisions they made. It is important for the project contacts to remain available for questions and assistance (Birnberg 2008, 205). A number of what Rondeau et al. (2006, 388) describe as churn projects often begin after the project itself has ended. These are smaller projects that fix some of the issues that disturb users work or do not work as intended.

Once everything is checked and faults fixed, the project group will be dispersed, starting from the planners. Usually a number of issues that need to be fixed are found that are still PM's responsibility. Planners and other project group members should be reachable, but are technically not bind to assist anymore. Once the PM has closed out all the open issues the project will be officially concluded. After this point the PM or the design team no longer have any say on the issues related to the space. Although often especially the designers are asked about them. After the project ends, the outcomes are often reviewed by customer satisfaction and feedback surveys (Wood 2001, 152). Post occupancy surveys presented by Wiggins (2011, 141) and similar analysis are often done to get user feedback from the project and the result. This does not of course affect the project itself, but help to understand users better and to improve the projects to come.

3.3 User understanding in facilities change projects

Projects mostly begin by changes in user organization growing too substantial for the organization to function in the premises. They are most often a part of a bigger change ongoing or as Mantel et al. (2001, 2) describe "parts of larger organizational problems". The nature of work and work environments are in a state of continuous change (Shiem & Then 2012, 58). During a facilities change project an initial need goes through a complex process where different organizations that evaluate, plan and implement the changes. Different parties involved have their own views and interests towards the change and the solution. Limitations and strategic decisions alter the project during the way. Compromises are made to fit the project into a scope, environment and schedule. And finally the users like or don't like the result partly based on many things that are impossible for the project group to realize during the project. To put it simple it is impossible to implement a perfect project. The success relies on how well the FM understand and manages user needs and then on the project to implement the changes. Therefore gathering, managing and involving user needs into projects, should be even more important topic in the FM field and in projects.

From other field such as service and product development it has become clear that user oriented approach has great potential in changing and developing projects. The user involvement and user oriented topics are still rather new in the field of FM. There is no culture of involving users in a large scale and this is currently just increasing in importance. The next chapters address the aspects of user understanding and user oriented approach in facilities change projects. Also the issue is studied from benefits and risks viewpoint. This helps to understand what is currently done in projects, why I think it should have more importance and also it supports the later phases of this research where the model is developed towards more user-centered

3.3.1 The information flow in facilities change projects

Facilities change projects have major differences' compared to many other development projects. Facilities change projects can rarely slow down, take steps backwards or test the complete product before it is ready. They have a negative effects as long as they are ongoing (costs, disturbance etc.). Also the old facilities are an obstacle preventing the organizational change. Quickening a project saves costs from planning and implementation, but most of all helps the organization to change faster. Wiggins (2011, 134) points out that most projects start too late and are therefore proactive and implemented in a hurry. These aspects lead to projects being implemented quickly. Projects are implemented quicker than ever before and it has become a norm to aim for fast delivery (Sommerhoff 2000, 50). "Fast tracking" where design and implementation are overlapped for example is a common way of fast delivery

(Birnberg 2008, 15). The pressure speed up the process often causes projects to neglect more time complex topics such as change management and involving users. As the pressure for fast delivery increases project success rests more on the initial phases of the project.

In the beginning collecting and evaluating the needed changes mostly rests on the FM organization. Then it becomes a discussion between management and FM on strategic level. Next it gains input from other stakeholders. In other words the information travels from organization to the next and they all make their evaluations and decisions based on it. "Information required by the facilities manager will pass through a process of conversion from business information into workspace data" (Shiem & Then 2012, 63). Once it reaches to a project group it has travelled quite a long way from the initial input. During the way two things happen. The changes become aligned with larger organizational change. Secondly a high level scope for the project is created, a project brief. This is the input that project group normally starts work with.

A group of management is present during the whole project to see that the project goals and scope reflects their needs. Corporate management might appoint a person or a group to watch out for user interest in a more detailed level. This task might fall to the project manager, internal user representative or an external consultant. Often the project manager is from among the FM organization. Vischer (2012, 125) explains how facility managers often have a continuous beneficial "partnership" with the users where they receive information about their needs. The project manager should be experienced with projects, but also represent the users and their needs or have it included into the project by other means. Often if the PM is selected from the user organization, they lack the skills to manage projects (Birnberg 2008, 115). Then again selecting a project manager familiar with facilities change project management usually means the person is not familiar with the user needs. PM has own views and opinions and the power to make choices based on the plans proposed, therefore he should be able to understand how the choices influence the users (Birnberg 2008, 118).

FM plays a major part on handing information and sources of information. Project groups are often gathered from external resources unfamiliar with user organization and user functions. The project organizations are chosen from professionals of their own field. Each participant knows what is expected of their profession, but does not research the user functions more than instructed to. Often they assume that user needs are represented in the brief. Project group and designers have their own experience and knowledge about similar users and needs that might or might not suite the case. The selected designers present their own knowledge and visions and should be carefully chosen (Birnberg 2008, 96). The project group rarely has an expert of user issues or functions. Especially issues such as corporate culture, image and usability are not based on any standards or rules and rely much on the persons selected into

the project. It is important to realize that a designer are, at least not legally, responsible for usability or image issues, so it is mainly the project managers task to confirm them (Koskela 2004, 36). Designers of course wish to create the best possible solutions the can, but act how they are managed.

The flow of information from organization to another, special project organizational structure and the pressure to implement projects quickly and cost effectively create a difficult conditions for the detailed user needs to be taken into account. Most of the decisions during projects have alternatives. The choices are made based on the project brief, management decisions, rules and limitations and the project groups' best understanding of the users. Once a project group is started, user participation is limited, so not to interfere with the planning and project schedule. The designers do not participate directly with the users, therefore a gap between users and designers exists.

3.3.2 User-centered approach in facilities change projects

Facility users are the most important source of information to create premises that work for their needs. Recognizing and understanding both main and secondary user needs should be a high priority during a project. Involving or at least knowing their needs is crucial for the project to success, but difficult to implement in practice. For a project group to know all the users and their daily needs is time consuming and problematic, perhaps impossible. So the group receives mostly "filtered" information during the project. These sources of information are the key to a successful project. The organization starting the project is responsible about what kind of information the project receives and how the project receives user information.

Projects flow from general and strategic level towards more and more detailed decisions. Projects in a way travel only forward. After the need has been collected the initial phases generally do not include users, for they are about evaluating the needs aligned with larger strategic level. Later the projects enter phases where involving users would risk disturbing the designers' tasks. Also late involvement of users would not really give them that much power to affect for the major decisions are already made (Jalava & Keinonen 2008, 29). Therefore including users is often quite limited. Only few of the user-centered views are generally used, when trying to understand the users and their needs (Väyrynen et al. 2004, 28).

The most important package of information about the user needs is the project or design brief (Dettwiler 2012, 51). It binds together all the discussions and details that have been discussed in the previous phases and is an accurate description of what the project aims to achieve (Wiggins 2011, 132). A great deal of information has been excluded already to create a brief. The brief is a product of an FM organization and reflects their understanding of the

users. Vischer (2012, 126) describes it that, the facility manager has a strong voice in how information is gathered, who receives it and in what form, and how it is applied to planning and design. FM organization should understand the current status and the future requirements (Shiem & Then 2012, 57). Therefore the process considers the project owners and management to represent the users. Shiem and Then (2012, 58) summarize the issue; "Effective facilities change management will require a thorough process of assessing organizational needs, assessing supply and deriving an appropriate outcome by matching demands and supply". All this is an ongoing process between FM and core business and takes part during the early phases of a project without an actual project organization. The process includes and excludes user depending on the organization and the process they use. Most often the users are cut off from at least some parts of the process, usually the early evaluation phases and the later design and implementation phases.

Xie (2005, 26) explains that appropriate user-centered research objectives, measures, and methods are slowly emerging to the field. In some projects, the project members study the users and their functions or involve them in to the planning process. The project group itself might, as Xie (2005, 15) explains, consider the users' needs and expectations and define them into functional requirements to meet the user needs. This can be done in various tools, research and participatory methods. Bull & Brown (2012, 120) proposes that end users could even be engaged with the project group directly. This could be achieved by workgroup sessions held with users in the beginning of design phase to get to know their needs. But users can also be observed, interviewed or any design methods can be applied (Vischer 2012, 127).

3.3.3 Disadvantages of poor user knowledge

Many failures and problems during projects are caused by not understanding the user needs, not recognizing all the users groups or not communicating with the users. Problems from such causes can be made in any phase of the project. Choices have more influence to the final product the earlier they are made. Also the way the project is organized is done in the preliminary phases of a project. Wrong decisions can create issues of quality, usability, costs and poor user satisfaction. Often the results are also with multiple negative effects that increase each other such as lower creativity, productivity or motivation. Issues that can't be measured in costs or quantities are often underestimated. Their effect can however be greater than thought.

Not understanding how the users do their work and what kind of different needs they have has long range affect on how they work. In so called knowledge work, issues such as creativity, motivation and worker satisfaction are key issues. Shiem and Then (2012, 58) explain that factors like air quality and natural lighting are important but other factors like corporate

branding and diversity of workforce are dimensions that can no longer be ignored in space planning and management. Tukiainen (2010, 16) argues that workspaces and design are factors of the creativity and increase or decrease it. These and related issues are studied, but hard to measure effectively. What has however been widely studied and accepted is that workspace affects productivity (Atkin & Brooks 2010, 133). Atkin and Brooks (2010, 141) make it clear there are measurable productivity benefits that can be gained by improving the physical working environment. Physical environment also makes social and organizational changes possible and support them. In this light it can be argued that if the space does not support communication, discussions and new ways of working, the organization does not apply these possibilities. Also if the organization is supporting creativity and innovation, but the space does not support it, it affects motivation. If people that need focus and silence are put in to a noisy environment, their productivity and motivation drops. The environment creates limitations and distractions to how we work.

Not knowing the users has also direct and indirect cost effects. If a space lacks usability or is not flexible enough to support minor changes, are changes needed much sooner and they cost more. This implies mostly to a facilities service life explained by Pinder et al. (2012, 27), in which the building lifecycle still remains but the space is obsolete for other reasons. Problems related to usability of space have increased during rapid economical and technological change (Pinder et. al 29, 2012). Indirect costs can as well be created slowly by slowing down efficiency of some processes. For example facilities logistic routes are often made in a way not considering or recognizing all the secondary users or their function (cleaning, moving, maintenance, archives etc.). Partanen (2003, 26) points out that facility service providers are often excluded from planning. In a short term it might be considered that this just makes things a "bit harder" but is acceptable. However in reality it might add hours to each providers amount of daily total work. When this is multiplied it starts to add up to tens of thousands of euro's each year. During the building lifecycle this might create additional costs of hundreds of thousands that in fact fall to the main user organization via service fees.

Example of problems that could have be prevented by user feedback

- Forgetting one or more user groups when considering user needs.
- Non practical design of space, which does not support/change users' way of working.
- Non practical items & furniture, which lower productivity and cause nuisance.
- Changes that just refresh image, but do not change the usability.
- Changes that affect the function, but do not change the visual and cultural aspects.
- Forcing change on users, and this way making the change negative
- A project that does not support flexibility or changes in the future.
- Projects that should be postponed or cancelled due to overall situation and future changes.

- Poor logistic connections or service facilities.
- Wrong material choices that are hard to maintain, or will not last in the purpose.
- Cutting costs on wrong issue to stay on budget.

Most of the issues listed might have been prevented with more discussions and user involvement during changes. These examples listed do not reflect all projects, but are presented to give some view of the type of issues might be improved. Especially services providers are often cut out from the design process and it is considered that the designers know all necessary facts. The services providers however have a lot of usable information that is specific to that facility and can only be learned by experience of the specific premises.

3.3.4 Benefits of user involvement in projects

In the previous chapter it is clarified how losing user focus can have major negative effects on the user organizations work, image and costs. User participation can help in three ways. By saving project resources such as cost, time or even planning resources. By avoiding wrong decisions before and during the project and improving the quality of the outcome. Andersen et al. (2011, 15) explains that; "Based on the literature review, it appeared to be likely that user involvement could serve as a tool for avoiding post-project changes". It can also help by lowering change resistance in user organization. Vischer (2012, 126) also thinks that conventional design process anticipates a payback to the organization in terms of more effective work performance, lower staff turnover and higher staff morale. There are however even more complex benefits to be gained that are studied next.

User participation guides the project towards the right track to support organizational strategy and direction it is headed. It guides the FM organization in knowing the business organization and adds communication between them. Also the value of the project is better understood when investing is considered. The sooner users are engaged the more should the project travel towards the correct direction in overall organizational setting. User participation helps the designers to make correct choices during the project. Involving users can help cut down unnecessary plans or even prioritize the project scope and goals. The co-operation between users and designers brings new kind of views to both parties and can result in valuable discoveries. It changes what kind of information the planners receive and the ways the designers work. This might be beneficial to the designers many ways as in example Saad-Sulonen & Botero present (2010, 74). Users are the best experts of how their jobs are done and what is needed from the space (Vischer 2012, 134). The initial need quite quickly travels to another organizational level that might have wrong assumptions of how things are done. Returning back to the actual users or actually getting information directly from them might clarify things and even simplify a project that might not be needed in the scale it was growing to be.

Users can often also consider what is actually necessary and what is not when trying to cut costs.

Change can be seen as a good or negative depending on the organization undergoing the changes and how the process is managed. Involving users lowers change resistance and improves user satisfaction on the process and the outcome. Empowering users can help to make the change a positive force (Vischer 2012, 134). It is important to understand that the changes needed in the space are usually a result of changes in the organization. Space is a tool for organizational change (Vischer 2012, 129). It is important to keep the important aspects of the old space and change the only ones that need to be developed. This is not possible without user knowledge.

Users have always been involved to projects in some ways. It is just the methods and ways that are changing. User participation and involvement is emerging into the change projects (Vischer 2012, 123). User participation is being used more also in service and product design. Designing services and designing facilities have many similarities. Service design aims to increase the understanding of users in order to create better products and services (Miettinen 2012, 31). Currently users initiate the request and have several contact points to the project organization. FM and business unit management dictate how much and what kind of cooperation are to be held. Also FM has or at least should have a good understanding of the users and their needs and bring it to the project. User participation has a lot of possibilities to improve the process from the very beginning.

3.3.5 Risks of user involvement in projects

I have so far described the possibilities and benefits of user involvement. Several risks and problems can however be found that restrict involving users. Users are professionals in their own work and that can be far away from facility management or change projects. Where the project organization may have problems understanding the users, so do the users have problems understanding how projects and FM in general works. Users have their own agendas that might not be in line with the project or FM strategy. More users are involved, more agendas come to play.

User involvement is a lot about managing people. Managing people is difficult and requires professional expertise. The more people are involved, the more time it will consume (Vischer 2012, 124). User participation has received lot of critique for badly managed or without proper tools it can overload the planning process (Wallin et al. 2010, 136). Designers cost a great deal, and delaying projects also often have other even bigger effects to the owner organizations function. This also brings the questions about who to include and who not to. Also it

might even create problems and conflicts between persons of different profession and viewpoints. Involving users too much slows the project down and creates unnecessary challenges.

Getting users involved might affect the project scope and goals in a way that is not favored by management. Users might require things that are unrealistic in means of budget, schedule or that simply are not part of the scope. Gathering information and having discussions with users, but then not implementing what has been discussed can end up as a negative feedback for the end result. They might consider themselves fooled or not taken seriously (Vischer 2012, 124). It is clear that knowing user needs and involving them needs to be done in a planned and professional manner. Jumping into user oriented approach without a game plan can lead to problems that are even larger than the benefits the project aimed at.

4 Developing the facilities change project

The earlier chapters explained the typical process of facilities change, the parties involved and what kind of benefits user-centered approach might bring to that process. The next phase of the research is to find out unwritten information about user involvement and opinions about it. The information was searched by interviewing selected individuals experienced in facilities change projects. The next chapters explain in more detail how the interview research was conducted and what were the results.

The interviews reveal interesting details about user involvement and stakeholder opinions about users' role in projects. Also the hypothesis about the possible benefits is confirmed. What becomes clearer from the interviews is that to gain the benefits, the user-centered approach has to be carefully implemented. If the process of user involvement is not carefully and professionally managed, many new problems arise. The interviews create specific focus points on how and where can user involvement and user research help.

4.1 Elite interviews

I chose to interview five participants of a typical project. This subject group covers all important viewpoints of a project. Corporate management, facility management, project group, users and secondary users. Projects have many other participants and stakeholders, but their role in the projects and fulfilling the user needs is smaller. These five project stakeholder parties are in key role in project when it comes to understanding and involving users. This can be considered as "Information-oriented" selection (Brinkmann 2013, 57), where I wish to find as much information possible with a limited participants. For example engineering professions usually follow the general concept, guidelines and standards decided by earlier design choices. These technical design solutions have less chance for interpretation and they work to sup-

port the functional solution and choices made at concept level before. Therefore an architect would best hand out the needed input to questions related to the topic.

The subjects were selected for their professional background and expertise. Interviewees are experienced in project work and multiple facilities change projects. Each participant has a background of more than 10 years in their profession or some role in projects. They can be considered experts in their part at projects and also have an important professional role in their organizations related to the topic. The views of the interview subjects on the topic were not known beforehand, they are mostly not familiar to each other and do not know the other participants. Still the results point the development clearly towards certain focus points that are introduced later.

The interview subjects were a facility management senior who has responsibility in both evaluation and approval of the project. A project manager who has the most important role of managing in the project after it has been approved. A user who has experience in both, user management and common user perspective. An architect, who presents the designer and project group views. The fifth subject is a service manager who controls that all services work as required and that the results of the projects do not create disturbance for them. These five subjects represent the most important parties and viewpoints that projects have.

4.1.1 Goals for the interviews

The interviews focused on finding unwritten knowledge and professional views about users' role in projects. Main target was to learn if professionals consider that user-centered approach should be increased. My secondary target was to find issues and focus points where and how user-centered approach could be increased. Last any other information related to user-centered approach in projects could prove to be important.

The knowledge gained from the interviews and current process is later used to improve the change process. The changes are aimed to improve the model, so the benefits of user-centered approach would be gained. The subjects are experienced in projects and present all major parties involved in a rebuilding project. They all have their own different role on projects and opinions on how projects should work. By interviewing all sides of the project, similarities and differences in opinions and ideas could be found.

4.1.2 Interview structure and methods

Discussions were held with semi-structured interview introduced by Friesen (2010, 95). They were conducted face to face. Semi-structured interviews have more potential to bring out aspects that the structure might have limited (Brinkmann 2013, 21). The interviews were recorded and transcribed. The general topics were recognizing user needs and involving users in facilities change projects. In more detail the guiding questions were about how, when and who studies user needs and involves them to projects. Benefits and risks to increase user involvement were searched as well.

The interviewees have more knowledge in the topics from their point of view. The questions were made to guide the interviews to keep within the timeframe and predetermined topics (Gillham 2005, 70). Apart from the frame created by the topics the interviews were open to take different directions that the interviewees hoped to prioritize. The results, or even the most important issues that rose from the interviews, were not known beforehand. Still semi-structured interviews are as Brinkmann (2013, 24) explains, "staged and conducted in order to serve the researcher's goal of producing knowledge". The subjects were introduced my goals for the research and my hypothesis.

To begin the interview I presented a project flowchart figure 4. To support the discussions and describe how I present the projects and parties involved in my work. This was done so we could discuss with common terms and agree on how I model projects. It is important to realize that the subject has a different perspective to the study (Ruusuvoori & Tiittula 2005, 36). The questions and structure of the interview was tested with a single interview before the final structure of the interviews was decided. Test round brought up some additional questions and made me realize the importance of explaining my view to form a platform for the discussion. Many, especially early parts of a project are not experienced by all parties and therefore it was important how I described them in this research. Brinkmann (2013, 52) explains that it is important to translate the interview in to a form that makes sense to the interviewees. Also several different terms are used for the same issue, so finding common terms is important.

4.1.3 Setting up the interviews

Total of six subjects were contacted. I was unable to get in contact with one of the possible interviewees (architect) so he was replace by another. The subjects were chosen from my professional network as persons who were likely to participate and have a say on the topic, but would not be affected by my professional relation with them. The subjects were introduced about my hypothesis and the goals for the interview and thesis (Ruusuvoori & Tiittula

2005, 23). All five who were contacted agreed to participate to the interviews and found the topic interesting. The persons interviewed were contacted by email. The email described the topic of the research, goals for the interview and the role the subject was to represent in the research. An interview of approximately 60 minutes of length was politely requested. An explanation of the research and guiding questions were sent to the interviewees beforehand to initiate thoughts and prepare them to the topic. The questions follow the issue of user understanding, user involvement and roles in a project. Same guiding questions were presented to each participant. The interviewed persons could choose the location and time.

To support the reliability several things were considered as Friesen (2010, 135) proposes. Subjects were given the option to remain anonymous professionals of their work title if they chose to. Only one participant chose to remain anonymous. As Gillham (2005, 55) explains "elite" professionals are part of networks that have high probability to encounter these studies and it might cause them inconvenience. One decided to remain anonymous which also supports the reliability of the research. A common ground for the interview would be set up by describing what terms are used for a project and how the research models a project. After that were the topic and interview goals shortly described and agreed that there is a common understanding of what the discussion would be about. The role of the interview subject was reconfirmed. The subject was given an opportunity to ask questions or details if they wished to do so. They were told that the interview was being recorded. Then did the actual interviews begin. The interviews lasted 30-45 minutes each and the discussions were recorded for later analyzing.

4.2 Interview results

All of the interviews were transcribed. In this study it is not necessary to pay attention to other but the written word, so the vocals etc. are not included (Brinkmann 2013, 61). Also the spoken is "polished" to be more easily readable. The following chapters shortly describe the reader what were the main points and ideas being discussed with each participant. The chapters also act as an initial analysis of the interviews. Points where the subjects had a clear opinion or an idea related to the research topics is written to these chapters. Data-driven coding implies that the researcher starts out without codes, and develops them upon reading the material Brinkmann (2013, 81).

Later ideas, phenomenon and issues that were repeated in all or most interviews were raised to be the focus points for the new model. Based on the results several points where the changes in the model should be made were found. Three main focus points are raised to be the most important and explained on later chapters.

I have a subjective view to projects from a viewpoint of a project manager. Also the thesis is based on the hypothesis that benefits can be gained from user-centered approach in projects. This has to be taken into account when considering how the research is conducted. This has guided the research process towards a more positive intuition towards user-centered approach. Still the interview subjects all considered the topic important and agreed with me that development possibilities exists in the studied topic. The results are explained in the next chapters of the thesis and used when developing the project model with what was discovered.

Project manager

The attended project manager Juha Turunen is an entrepreneur and a consultant providing professional services related to project managing and change management. He acts as an external project manager in appointed projects with over 20 years of experience behind him. He also trains and consults project managers. Most of the projects he leads are not rebuilding projects and I consider this is shown in more positive attitude towards user-centered approach.

Turunen explains that project work has developed more towards trying to understand all user groups and their processes. This has been recognized also by the management parties. It has been understood that the management level does not necessarily know all the different functions or how the users work daily. Teams and lower level participants are involved more than 10 years ago. Still the project manager has a lot of responsibility to recognize if everything is taken into consideration.

According to the subject the next step in project management and where things are going, is to focus on more on the organization, teams and processes they do. The projects he leads are often about developing processes and ways of working, not just changing tools or physical environment. This way focuses the projects more towards the actual needs, noticing all user groups. Connections between user groups become clearer. Also this method describes to the project team what is the most important user group in the project.

He thinks users should all be included somehow in the beginning of the project. This should be interactive and open process. When users get to discuss about the changes and their needs a lot of new issues and ideas are found. This way users study their own needs and ideas and work for the benefit of the project. Turunen points out on several occasions that it is important to describe the users about the realities and the limitations of the project in the very beginning. This forces the users to prioritize their needs and also prevents the unnecessary

things from becoming part of the project. Managing the users in a correct way as a group clarifies the important points of the project to the project group.

He also points out that projects should openly communicate about the reasons and limitations behind the changes throughout the whole process. Once everyone has been involved in the beginning they need to be contacted on a regular basis for them to mentally prepare for the changes. They need to know where the project is going, but do not necessarily all need to be part of the project anymore. It is good to gather some opinions during the way and give the users a limited influence to the project. According to Turunen, during the project it is important to include a limited number of users to the project. This way it is possible to get user information, without involving a large number of persons. It is important to find the correct persons to represent the users. These should be persons that have an important role in the organization, so they know how the users work, represent a large group of the organization or have a role of opinion leaders in the organization. These users should be involved to keep the project on focus and to have a link to the user organizations. They in a way sell the project to the other users and make the change easier to implement. Also the management level participants have mostly liked the idea and supported it during projects he has attended.

We agreed that the initial assumptions and scope usually change during the project. He says that projects, he has been involved in, usually begin and should begin by really rough ideas and estimates about what is needed. It is important to include the project manager and some members as early as possible in order to understand the project goals and backgrounds, latest after the workshops or similar sessions.

When asked about benefits or problems of user involvement, Turunen says that involving users can not be seen to have negative effects, for it is a must to achieve a successful project. The project end results are better in two ways when users are professionally involved. Most importantly the changes are focused and prioritized towards the needs of the users. Secondly the users agree more towards the changes. It can be a huge positive force when the users agree that the changes are done for them and to help with their needs as a company, teams or even as individuals. Involving users in the beginning and during the project is a must. Without it the project will face resistance and some important aspects will be missed. If managed correctly and if the process is correct there should not be that many negative effects. It can of course increase the workload of the project manager or other members in the team, but that should not be an issue to prevent this. The most important thing is to have rules and limitations to the user discussions and user involvement. When contacting the users there has to be a frame and a scope for the project already. The users can not define what the project is once it has been started. He states this clearly, user involvement has great benefits, but the project manager has to know what he is doing. The project group has to recognize the process and what users need to be involved and how. The management does not need to describe

this, for it should be understood as a basic thing in projects. It is beneficial if the user groups and contact points are described in the brief already, but the group still needs to check if this information is accurate. There is a lot of work to get all the necessary information, but the project has to understand the user groups and their work. The organizational and process charts help with this.

Turunen explains how describing the user groups and their work is increasingly becoming part of projects. He says that workshops and polls are important but are becoming almost a standard in today's work. Users should be gathered at some point as a team or organization to discuss the changes. This should not be lead by the management, for they do not do the work itself and might affect the results of workshops. User focus groups that are involved during the whole project have been successful in many ways. They lower the change resistance and the feedback given by the groups has been beneficial. Also some kind of pre determined "check up" points with user groups are being increased in projects. They create some excess work, but then again the project group can be safe that they are on the right track.

User

The interviewed user is a business management assistant Heli Kumpulainen. In her position she communicates the user needs between users, management and FM. Also she has a responsibility and role as a management assistant participating not only in presenting user needs but management needs in various forums. With this perspective she has guided their organization through many facility and organizational changes.

She brought out that in the projects she has attended, user groups are probably recognized rather well. The success relies always about decisions of how well does the project try to tackle the needs. What has to be recognized at least, are the general groups and then the groups with special needs. Usually it works to have a general concept with some alterations.

According to her once the main purpose for the project has been agreed, users should be included, and once included the users should be present during the whole project. This would help the project and improve the results. She told that a small number of selected users would be sufficient. The needs can be gathered via some contact points, assistants or similar. Also these contact points can guide the project towards what and from where should the data be gathered. Users should be taken into the project in a very early stage. This might help to push the project into the right direction. This way fewer changes are required further on. Also this increases the communication between the project and the users, what helps in the change process that the organization needs to go through. There needs to be channels of information to flows towards users about what is being done and why.

In her experience details in projects always change. How much, it depends on the size of the project and also if the initial request comes from the users or somewhere else. Needs that start from the users mostly become projects that fulfill just that need. Ones that are larger and started by management or FM have more changes. She thinks it is important that the needs are known or gathered really well before the project goes to the project group. An outsider could have nice ideas and can be used to gather information but can never really learn enough about the users and their functions. Facility management, project manager or the management need to know the users to achieve good results on projects. Designers or other externals rarely have the time or the skills to get to know everything well enough.

She proposes that user understanding could be increased by getting some selected users to the project group itself or they might act along the project group communicating and helping the project. She reminded me that users know what they need, but they need to be asked in with professional methods. They need to know the limitations and frame of the project so they don't wish for things that are impossible and also communicate this to other users. Communicating all this also helps to lower change resistance and the users feel like their needs are taken seriously, but everything can't be done. Also users could be given the opportunity to select their representatives themselves. The project just needs to ask for a number of persons to attend from the contact points FM already has with business. For the user to be outside of hierarchy might give fresh views. The initial contact of course has to follow hierarchy for the management to know about the project and what is planned. The co-operation network already existing between FM and business was strongly brought out as an important setup for successful projects.

Secondary user

The subject of the interview Birgitta Tunttunen is responsible for several service areas, their operation and efficiency. She holds a wide responsibility to govern a group of professional service managers that manage the services and workforce. She has over 20 years of experience from service management and changes to both service and facilities. Changes in facilities have high impact on the services and their quality.

In her opinion the user groups are not recognized well enough. She says that quite often projects are started from facility management or management perspective and while the users are known in general level, many of the smaller groups inside are not noticed. The users and their needs should be clarified when the project is evaluated. The service providers are most often recognized better than the user groups, but often not involved enough. She wonders

about why not involve parties that might bring professional views that help the project to success.

She thinks that users are involved enough during the project in overall, but should be involved more in the beginning. If the work in the beginning of the project is done in full and broad scale, involving the users later during the project could be limited to checking up some details. Even if Projects usually change during the process, the changes need to be managed inside the project group for the projects to be implemented in time. Once the projects are ongoing the schedule or budgets in projects do not bend to more user discussions. If the project group has a clear understanding of the user needs, they can make the decisions about changes with limited mistakes. In her opinion it is critical to have everything studied at the beginning.

She points out that FM needs to understand the users all the time to start projects with correct goals. Users should be understood by FM and their management even if no projects are ongoing or planned. This should be permanent process of co-operation between business and FM organization. It is not enough to have workshops or ask questions from users if the very basic assumptions of what the users need are not up to date. User organizations and business change all the time and the management and FM need to understand the changes and future needs. This way the changes could be proactive. Also then the projects would be guided by FM towards the right issues.

She argues that involving users more would bring more information and undoubtedly could have benefits, but is problematic. It always comes with a cost of schedule or higher costs. The costs might be just too high. These issues guide the projects very much these days. Perhaps even towards wrong way. That's why often users are neglected in projects. It would be best if in the beginning all users would be involved and asked about their needs and how they work. The necessary issues would surely be presented. Information could be shared even before the project has been started that this kind of changes are planned. For example the services could bring a lot of issues to the table that can't be included if the designers hear about them too late.

Designer

The interviewed architect is a professional in architecture and indoor designer in a medium sized company. He/she has attended projects ranged from light refurbishment to completely new buildings. Roles in projects range from consulting to head designer. The subject decided to remain anonymous. I will refer to him/her as X or he in the next chapters.

According to X the user needs are taken into consideration rather well. The users themselves quite often keep their issues on focus and bring them up. The project scope what is needed in general level comes from the management, but the detailed needs come from the users or someone representing them. The more information, the designers receive already gathered, the better. He pointed out that the user needs are just a part of the design needs. Also budget, legislation, strategic needs etc. need to be fulfilled. There needs to be a balance between the issues that the design has to consider. He strongly explained he's opinion that the project goals and scope has to be made clear to the users on the very beginning. The planning process should not be mixed with the internal disagreements between users and their managers. There has to be a consensus about what the project is doing and why, before the planning begins. These discussions should happen between users their higher hierarchy and possibly the project manager, but the planners should be kept out of them.

He explained that the users need to be represented during the project, but with a very limited number of persons involved. The traditional design professions have no time or tools to manage large numbers of user feedback. Also these involved users should be positive about the changes and try to find solutions together with the planners. They should be pointed out to the architect, for they do not know the organization well enough for such decisions. Designers need feedback, but as he said they do not necessarily need to be the ones collecting it. Designers are not used to people and change management, for their task is to design solutions for the problems that are brought to them. He says that; "many of them are actually not that good in managing people". Direct contact with many users shifts the focus from planning to change management. This is harmful for the planning process.

He also agreed that projects today change a lot during the process. Involving some users for example a focus group or a user representative to guide the project group might work. However he had no recent experience on such methods being used.

He agreed that users should be more involved and they should be listened. "They are the reasons we built at all". Then again he said that involving them is challenging. They most often point out what they don't want, but have no more information or details to offer for the solution. They can disrupt the planning process if not managed correctly. So a suitable amount of involvement and methods should be found. The biggest problems are when the management and user needs conflict. These kinds of conflicts should not exist once the project goes to planning phases. Architects have no solutions to give, if the issues are about disagreements between users and management or users needs not fitting into project scope. Also they have no motivation to plan against the user needs, even if the management appoints them to do so. They can only locate such problems, bring them to knowledge and hope for the PM to change the course of the project to solve them.

He said that architects need more concrete issues already filtered from the mass of things the users bring up. The data gathered from users needs to be analyzed and the important topics prioritized for them. They can use lists, observing, layouts or anything that is processed a bit further than the data directly from the users. Things should be gathered, discussed and focused for them to solve. The methods are rather used, but they work. Users can be involved by giving out only few main contacts to discuss with or filtering data from users to a form that the designers can use.

Facility management senior

The interviewed facility manager Jyrki Sievänen acted as a site lead of facility management for years. He has experience as facility manager, project manager and has also acted in the steering committee in many projects. Now he develops a service model about space change projects and services.

Sievänen describes that the persons from facility management, responsible for the premises, should know all the user groups and their function. They do not need to have detailed information of each teams work, but should to know the main user groups and their contacts. He adds that usually they know all this. Starting with this information all the teams should be represented in projects, by asking local team leaders or even larger group for initial information. He explains that users know what they need, and they can explain it usually in detail. At least they can always describe what they do and how they work. He points out that user are usually keen to influence their own work and premises and if they are given a real opportunity to influence, they take it. He thinks the users need to agree with the goals of the project to help guide it. Also he pointed out that some will always be against the changes. Solving these kinds of disagreements require skills and nerve from the negotiators and PM, but they need to be solved. Project needs to get everyone's opinion taken into account. The decisions don't need to be ones that everyone likes. Not involving users brings out these disagreements after the project with more harmful effects.

Sievänen thinks that including users more has mostly a positive influence on the projects. He said it is of course possible that the user needs start to increase when asked, but this should be controlled by letting everyone know the scope and realities of the project. When contacting users they need to be told the limitations. These high level decisions need to be done before users are contacted at all. High level decisions can be discussed on management level. After this, can the user level data be gathered. He explained that selected persons from user organizations should be included during the whole project. Team leaders or similar users that represent a group but also prioritize needs when needed. An important aspect is also that information has to flow to the users from the project group. User contacts are a good method

for that as well. It is not possible to include all, but the message gets through via a smaller group as well.

He described that the initial data gathering and evaluation is a task for the organization itself and FM organization. But once the project has been confirmed and discussed on management level it should be given out to the project group to manage. They are responsible for it once it has been agreed what will be done. When the project group is gathered the user needs should already be clear on the general level. Project group has rather limited possibilities to change the course if the initial information has been wrong. Major decisions and changes should be checked with users to know they are correct, but the power remains in the project group at this point. Projects change almost every time. Probably not the goals or the scope of the project, but the details. That's why the initial information is crucial to be correct and well gathered so the project group can steer the smaller changes by themselves.

He agreed with me that projects can be improved greatly by listening and involving the users more. He still pointed out that it varies a lot how well these aspects are implemented. He explained successful methods such as scrumming with user contacts weekly or when major changes occurred in the project. In some of their projects, that helped to make the needed changes so they best support the users. The scrums were done between management, user contacts and PM. Also workshops are on his opinion a good method to collect the user needs in the beginning. An anonymous idea box might work as well. The important thing is that the user's needs have to be collected by someone objective and professional to the matter without management pressure. There are professionals in workshop working that get great results out from the users. Usually the results give more insight to user needs than just discussions with team leaders or management.

4.3 Evaluation of interviews

After the interview were transcribed the evaluation of the results began. They were in many aspects encouraging and suggested that a more user-centered approach has potential to improve projects. These results enabled the research to continue on finding out how to change the process towards this general view. The subjects were all interested about the topic and acknowledged its importance. With this aspect of the research confirmed I continued towards searching for focus points for developing the project model.

Based on the interviews, three development points rose above others and are picked as the targets where to develop the project model. The results pointed out that the early phases of the project have most importance and value when researching the user needs. This way the actual project planning would begin with more information. Users were considered to have

great potential in bringing up and even prioritizing their own needs, but only if managed correctly. Also empowering users was thought to have psychological benefits in changing the attitudes towards the change. The project group could involve users during the planning and implementation phases. This would help the project to stay in contact with the users but also prevent mistakes. Third big topic that was raised by the interviews was the knowledge and understanding that the FM has about the users and their needs. This has direct and indirect impact on the project from the request phases all the way to the completion. However it involves too strongly the FM organization and its work even before a project is created. Developing the FM organization and their co-operation with business would go too far out of the scope of this research. It is an interesting topic to develop on its own, but is excluded from this research.

The target issues were mentioned multiple times and the subjects emphasized their importance over other things. The next chapters will explain how the interviews were evaluated and how the development points were found. Also the focus points are explained in more detail. Based on the information revealed here, the project model is later developed to improve certain points of the project.

4.3.1 Methods of evaluation and reliability

The details and setup of the interviews is described in the previous chapters. This chapter further opens up the research methods, process and reliability issues of this thesis. The interviews were transcribed completely to enable better the study of the material. Hirsjärvi et al. (2009, 222) describe that transcribing is often necessary for further evaluation of the material. Rubin and Rubin (2012, 190) consider transcribing to be the first step in data analysis. In this study only the words were necessary to transcribed and including for example the speech mannerism was not necessary. The text was cleaned up to be more readable and resemble more written than spoken language. A summary of each interview was written as proposed by Rubin and Rubin (2012, 192). A number of quote's are represented in the summaries to link them in to the interviews as Kananen (2013, 129) and Hirsjärvi et al. (2009, 233) propose. The summaries help in analyzing the interviews but also help the readers of the thesis to understand the views of each subject in more detail.

Once the interviews were transcribed and summarized, they were encoded. The questions that were asked guide the concepts and themes that were included in the coding (Rubin & Rubin 2012, 195). The most important theme for the whole thesis was; are user needs emphasized enough in projects. After the positive results towards user-centered approach had been confirmed, the next themes were about; the benefits and problems of user involvement, in what phases should users be involved, how they should be involved and who has the responsi-

bility for taking user needs into account. The interviews themselves raised a theme of user empowerment to be a more important theme that considered in the beginning. As Rubin & Rubin (2012, 195) suggest, once you have coded the themes and concepts your questions were about, you can consider what the interviewees emphasized.

The findings of the interviews were next summarized. Even if the subjects do not all agree on every topic, the findings can be summarized (Rubin & Rubin 2012, 205). The interviews strongly pointed out that the earlier phases of the project have more impact on the project and users should be considered more there. Combining what they described a clear focus point on where to apply changes on the project model could be found.

A qualitative interview can never be fully valid. My aim for the research is to search for ways to improve projects by taking a more user-centered approach in the change process. My hypothesis empathizes that projects can be improved and that they should be more user-centered. I have a subjective view on the topic and the thesis is directed by it. Hirsjärvi et al. (2009, 222) describe that the reliability and validity can be improved by describing the interviews in detail and by explaining the thought process how the conclusions were created. I have done this in detailed manner. The interview subjects were, as described before, chosen to represent project stakeholders. They were given alternatives to remain anonymous and were explained in detail what is their role in the interview. All this should increase the credibility of the research as described by Rubin and Rubin (2012, 65). Also as they (2012, 68) propose to promote transparency, all the transcriptions and research phases are explained in detail. To have more opinions and methods taken into consideration, as Hirsjärvi et al. (2009, 233) proposed, improvements are later tested by co-creation with other professionals. This does not only develop the model further but also increases the reliability of the results for being not only my own ideas, but reflected by others as well.

4.3.2 Focus points for developing a new facilities change project model

All the interview subjects explained to me, in some way, that the beginning of a project should contain a period of user data gathering and discussions. The interview subjects explained that normally the general user groups are noticed, but the variations and more detailed needs are often missed. Most thought that the detailed needs can't be understood by the project group or designers without someone collecting and organizing them for them. It came up in many of the interviews that also the possible internal conflicts and change management should be done inside the company in early stages of the project. Involving externals to the change management process was thought to be difficult for each participant. The interview subjects were very precise on what needs to be decided before a project starts discussions with users. Also it became clear that it should not be done too late, so it would not

disrupt the project. Majority said that this is the most important part of a project when it comes to involving the users. Also several ideas of how this could be done were represented. This need to study and involve users early in the process was strongly presented in all interviews. For the presented reasons it is chosen as the first focus point when developing the model.

The second topic that was discussed a lot was involving users continuously during projects. The possible benefits were agreed by all, but also a lot of problems were also presented. User involvement later in the project was thought to have great potential in enhancing communication between users and the project group. This would help prevent mistakes. Communication was thought to lower the change resistance and help the organization to change. Everyone agreed that at least some communication should be done with users' through out the project, but not all agreed on actually involving users after the initial phases. All subjects agreed that involving, if done at all, should be very controlled and limited.

Apparently this type of involvement has to be very limited and organized so it won't create problems to the project group work, project budget and schedule. It was said also that, if the mass of users were involved in the beginning, must the project group understand them well enough to make decisions later even without involving them anymore. There were some opinions and suggestions about how they could be involved, for example by taking them into project group. The subjects however had very little experience of the users being involved in the ways they explained. In short, benefits could be gained by involving users for the rest of the project, but with carefully controlled methods and small number of users. This became my second focus point on developing the process.

During the interviews it came up several times that to really understand users and to be user-centered, FM has to know the business they serve. FM controls the projects and decisions about facilities are always strategic decisions (Shiem & Then 2012, 61). Not only should FM professionals research user needs and try to include them during projects, but also try to have an ongoing partnership with them. This way the projects are more user centric by default. Also with this kind of set up there would be a network of contacts already existing when a project is started. FM has influence on the projects in many ways, the better they know the users, more successful the projects would be. "A key role of the facilities manager is the interpretation of business data into a set of requirements for workspace and its infrastructure" (Shiem & Then 2012, 63). Many pointed out that some part of the project organization has to be aware of the users work already, for it is too large a task to learn their ways during a project. This indicates that at least part of the project core group should not be an external, but from inside the FM or business organizations. The relations between FM and business organizations would be an interesting study topic. Organizational structure and roles

inside FM organization have a large impact on projects. However changing FM and their tasks goes way beyond the limits of a project and affect the project itself only indirectly. For reasons of complexity and my study scope I will exclude the topic from this thesis. The roles and co-operation between users and FM should be studied to develop them further, but not in this work.

5 New facilities change project model

The interviews revealed that project participants agree that user knowledge is a substantial asset for a project. Also without a doubt FM and management should know their users and the scope for the project should be according to their needs. This knowledge should be given out to the project group, but it is often not enough for the project to truly understand user needs. The interviews made clear that the traditional design professions try to understand users based on the project brief and some study, but do not necessarily interact with users enough. New ways in getting user data should be developed to improve projects. More information should be collected by engaging the users' right after the project brief has been created.

Secondly users would need to be more presented during the project planning and implementation phases. Including them should be done in a controlled and limited way and agreed strictly with users' organizational management. In short, user needs should be better known and they should be more included to projects, but with specific limitations to control the process and maintain risks of involving them. A more communicative purpose for user involvement would suit the later project phases.

Based on the interview results and earlier study, some changes were made to the project model. Each interview participant replied about users role from their own perspective, that constructed a general idea of how and where could user understanding be gained and where could they be involved. The changes made respect the views of the interview subjects, literature and current tradition combined with my own experience. The new model will be introduced in detail during the next few chapters. Also the benefits and risks of the new model compared to the traditional one are studied. The benefits recognized by the interview subjects strongly indicate that benefits can outnumber the risks, when carefully managed.

5.1 The user studies phase

In the traditional project model early phases of feasibility and evaluation study the user needs and search alternative high level solutions for them. The user needs represented at this point are considered broadly and represented by facility management. They are then viewed

by management, property owners and other project owners. Kankainen & Junnonen (2000, 17) explain how the user functions, current problems etc. are generally researched in the beginning during project request phases. These early stages of a project however do not, and according to interviews should not, include many users. The early phases only considers needs in a more organizational and strategic level. Smith & Love (2012, 77) explain how the early project stages should be about strategic decisions and understanding broader issues and objectives. The change project begins if the owner and user needs are aligned (Kankainen & Junnonen 2008, 17). Users described by them do not mean the user in the meaning I use but the senior management, which might have very different perspective (Vischer 2012, 130).

Once the briefing has been set for a project based on the strategic decisions, the project group begins to study solution concepts and initial plans for the project. Based on the briefing they study the users more, or trust the management and FM to give them appropriate information for planning and designing. It is at this point where even more information, more knowledge and more user involvement is needed. Andersen et al. (2011, 308) describe that post project changes can be prevented by; "Better involvement of users and operational units, sufficiently early in the project to allow an actual influence on the choices made regarding scope and solutions". Ruuska (2012, 165) describes that a panel discussion or similar could be held at this point. In the new model a phase meant solely for user studies is added as shown in figure 6.

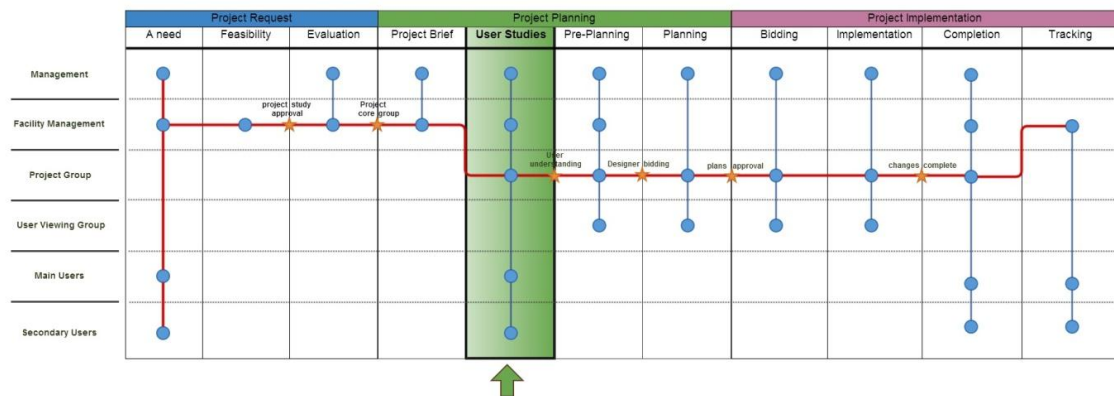


Figure 6. User studies phase added to a project model.

Literature on design of the built environment highlights the importance of user involvement in briefing and design (Andersen et al. 2011, 15). The scope and limitations for the project are set, but issues within those perimeters are still open. Based on the interviews this would be the best possible point to further study the users. The additional information gained at this point would guide the project in detail, and enable to change the project if the user studies prove the brief to be in some way incorrect. Also in a case where the project faces major change resistance, it would not influence the project in the later stages where the

changes create higher costs. Jalava & Keinonen (2008, 39) explain how changes create added costs or can even stop the project from proceeding. Mantel et al. (2001, 229) explain that projects changes are to be expected from client, and even the project group, as they try to improve the quality of the project during it. More they learn during the project, more they will try to change during it.

The purpose of the phase would be to gather more data about user needs and include the users to the project in a controlled manner. Adding it to the project model promotes the importance of the user studies, limits the involvement to a certain point and helps stakeholders to understand when their need is studied. Learning about user needs and including them will have benefits and risks I will explain in more detail during the next chapters. Also this way the users are considered to be a unit worthy of studying directly, not presented by any other entity. The management and FM would describe the high level strategic needs and set the goals and limits for the project, but they would not be expected to know the user needs in detail. The interviews described that they often do not know them. The users themselves would be included to set course for the planning as they participate.

The user studies phase in practice

To develop facilities change projects, a phase of user studies should be added to the project model. User studies phase includes all or at least most of the stakeholders in to the project for a pre-decided, planned and limited time. During this phase the users would be contacted and included in to the project to gain understanding of their needs. Whether to study users, and how much, would be less dictated by the project managers and designers choice. More knowledge about the users would be gained by various traditional, modern and user-centered methods. This study does not specify the methods recommended, but explains on what point and why should this be done. The gained information would be available to the project group and management. The users would at this time also learn that such a project is ongoing and what is going to change when it is implemented. Once the phase would be over, the users influence to the project would be limited to traditional and communicating to the project group would be done only via directed routes.

The user studies phase would emphasize user-centered approach such as user involvement and studying the users more before designing (Väyrynen et al. 2004, 28). The methods of this phase could be such as workshops, interviews, discussions, opinion boxes, polls etc., what would suit the organizational culture, project and current timeframe. For example virtual participation methods have been tested in hospital building project with positive feedback (Yli-Karhu 2011, 41). The data gathering and user sessions should be lead by an expert on the profession to gain most benefits. User participatory methods, workshops etc. are not part of

the normal design tasks and might be difficult for a traditional design tasks to manage. Sanders (2002, 1) explains how in user-centered design a researcher collects and transforms data to learn about the needs of the user and the designer interprets the data to plans. Even though the designers wish to gain information about the users it is not within their profession to gather information or work with a large number of users. The facilities project group professions have many similarities to for example with design thinking and service design (Mager 2009, 32) in trying to understand the users and their needs, but are often too traditional to directly engage users with good results. "Service design addresses the functionality and form of services from the perspective of clients. It aims to ensure that service interfaces are useful, usable, and desirable from the client's point of view and effective, efficient, and distinctive from the supplier's point of view" (Erlhoff & Marshall 2008, 355). The user studies phase could be entered only with the scope and goals for the project already determined. Users must be aware of the goals and limitations for the project from the very beginning of their participation. They have to also know that their direct influence would be limited only to this phase. In the interviews it was strongly brought up that users have knowledge of their own needs and they can even prioritize them when the users are contacted with proper methods. The project scope, goals etc., a brief needs to be agreed with business management and other decisions makers before entering the user studies phase. Brief should therefore also describe that such a phase will be held and the goals for it (Wiggins 2011, 132). A core project group should already be included in to the project for them to learn everything they can from this new phase.

Engaging users at this point would limit the user involvement in later phases, but also increase their interest towards the project. The user studies phase could end by user organizations selecting their representatives to speak on their behalf for the rest of the project. The selected persons would have a role to act as a link between the project group and the user groups for the rest of the project. I will explain user viewing group in more detail in later chapters.

Benefits of the user studies phase

The benefits of this new phase would be to learn more about the user needs and to better organize the information the project group has available. This would, when successful, result in better quality, less changes in the later phases of the projects and less post project changes (Andersen 2001, 320). Partanen (2003. 24) describes how when changing facilities, it is important to know the user functions and involves users. Vischer (2012, 125) puts it simple "workspace change process benefits from empowered users". Without user studies the project itself has a limited collection of information filtered by management and FM. This phase would also test if the initial information has been correct and sufficient. User needs are stud-

ied in every project, but it relies much on the project members. Adding the studies to the process model, would guide how FM organizes projects to emphasize the importance of this aspect.

This additional information collected in user studies phase would guide the solutions the project group makes during the rest of the project. Designing is done by planning from high level solution towards more and more detailed (Koskela 2004, 15). Knowing the user priorities and their needs would guide the planning from the very beginning. Sometimes the needs also change rapidly or the brief does not fulfill the user needs appropriately (Jalava & Keinonen 2008, 39). Realizing this at early phase would save the organization from going into design process with a lot of high level changes. Involving users also leads to interdisciplinary design teams where user perspective is more taken into account and the end product possibly serves the purpose better (Erlhoff & Marshall 2008, 320). During the phase information would be prioritized and organized. This would save planning time from later. Project would focus its resources on the most important issues. The interviews brought up that what issues the project prioritizes is affected greatly by the project group members.

Including the users would lower their resistance towards the physical and organizational changes. Van der Voordt et al. (2012, 133) explain that people affected by change need to have some involvement in order for the change to be successful. It is important that stakeholders are involved in decision making (Atkin & Brooks 2011, 59). By letting them know what is done and why would prevent lots of misunderstandings, unnecessary questions and also hopefully change their attitude towards the change. The purpose and the goals of the project would need to be explained to users. According to Birnberg (2008, 189) the value of the changes can be influenced by influencing the customer expectations. Involving the users is the only way to influence them. Vischer (2012, 128) explains that the benefit of proactive approach is fewer negative impacts arising from changes the users did not understand or anticipate. Importantly the management would learn what the users think of the project and plans. Earlier it was said that the needs of the building owners and user management need to align to create a project. For the project to be successful the user and management needs need to align as well, at least to some extent. According to the interviews conflict between user and management is not uncommon and if users are not involved during the early project, they need to be addressed in the later, more critical phases of the project. The projects themselves rarely address the change that the organization is going through. The more they know about the project the easier it is for them to change their function aligned with the physical changes.

Risks of the user studies phase

Empowering users has risks. A new phase such as user studies has to be carefully planned and managed for good results. User involvement increases a risk to increase project schedule and costs even more than planned. In organizational level it might increase the friction between users, management and FM. It's commonly agreed that a portion of users will always resist changes (Atkin & Brooks 2011, 68), (Van Der Voort et al. 2012, 133). This has to be acknowledged when engaging users. The management must support the project and this must be clearly communicated (Jalava & Keinonen 2008, 31). The resistance should mostly be directed towards the management, not towards the project itself. Projects help the organizations change by changing the facilities and partly forcing the organization to adapt (Dettwiler 2012, 55). Also the users must be explained that they are given a possibility to influence certain things and they should embrace it, rather than just oppose a change that is going to happen.

The interviews revealed that because involving users is thought to be risky to the project, and for this reason often limited. Mostly the risks were thought to be about the management view and user wishes not aligning. This puts the project in to the midfield to negotiate with both. Negotiations and changing scope risk the project schedule and costs, where it might improve the quality aspect (Mantel et al. 2001, 229). User studies might bring out the differences all simultaneously and possibly enforce the user resistance towards the change. The organization must be ready to resolve such conflicts, for the project itself is not yet fully formed. Ruuska (2012, 44) brings out strongly the point that the project has to be enforced by appropriate management level to make decisions on its own. Solving the issues at this point would save the project going through this later and simplify the project groups work.

Users have needs and wishes. It is the task of FM to know them apart. This is about evaluating how much would a certain change be worth. Evaluating "soft" issues such as how something looks or how satisfied should users be is difficult. Vischer (2012, 124) lists increased needs as one problem that can come out of user participation. The interviewees explained that users need to know the limit of their influence and their role in the project. This has to be agreed in the brief and it must limit what the users hope they get. It is almost certain that new needs will be brought up when users are studied more closely, but this has to be understood already before entering such a phase. Ruuska (2012, 43) explains that changes always happen, but earlier they happen the better. He also describes that a clear process of how to evaluate these additional needs has to be agreed. Commonly the project group decides on them or if they are larger they become an issue for the steering committee.

One of the most difficult issues, about including users, was thought to be the very task of managing a large group of users and communication with them. Ruuska (2012, 257) for exam-

ple points out that the amount of stakeholders involved increases the risks that the project has. Co-operation and user management during a user studies would require a specific skill set not traditionally included in FM projects. This would require a professional in involving users and dealing with change management. This role would need a clear management support or a high role in organizational hierarchy to enable control over the user studies. The new phase and perhaps pre-design phases as well would require additional resources to manage. Also it is clear that adding a phase to the project requires an added time. Vischer (2012, 124) describes that it is this added time is one reason why consulting users is not widespread in the industry. The planning can't proceed before this phase has been ended.

Once the users are connected to the project, they must to be included in it. The interviews all explained that user discussions should be limited in the later phases of a project. Both aspects need to be considered. An organization responsible for communication about issues in the project could be set up during this phase that would both make possible and limit the user participation. This organization and its purpose is better explained in the next chapter. It would be a great tool for communication and getting information during the project.

5.2 The user viewing group

Once a project goes to a pre-planning and planning phases the designers start working on full force. Each interview subject described that this phase can only involve a limited number of participants or the design process is interrupted. However even in later phases detailed information is needed and the users should know how the project continues. Everyone interviewed also agreed that changes happen in projects and a user feedback on those would be useful. Ruuska (2012, 245) describes that changes are common and not necessarily based on inadequate studies or mistakes. User involvement is slowly increasing its importance and awareness (Koskela 2004, 13). Mantel et al. (2008, 229) describe that some changes will be attempted to the project. They however continue that they can be managed with a proper change control system. Changes need to be analyzed and approved in proper level (Ruuska 2014, 246). Interviews revealed that users are not usually involved when considering changes. To solve this equation, of involving users but with limitations, users would get to view the plans and participate to the project with a limited and controlled group. A group of user representatives, a user viewing group, would be act as a link between the users and the project.

The system would be similar to a peer review network, but the changes would not be reviewed by a fellow professional but a users or a similar member. Who better to evaluate than the user, an expert of how well the changes support their work. Ruuska (2012, 259) describes how review points are often used in projects to get feedback once a certain milestone is reached. The user viewing group added to the project model would just have a more continu-

ous role in giving the feedback and communicating with the project. Ruuska (2012, 164) describes that such a group can be used for communication or that user can participate in to the project group. The normal peer review system has several controversies represented by Birnberg (2008, 164) that I will take into account when considering this user viewing group. The group would review changes and help, but would not have veto power over the project group. Also they could be excluded when wanted. User review group would start functioning when the project enters pre-planning phase as shown in Figure 7.

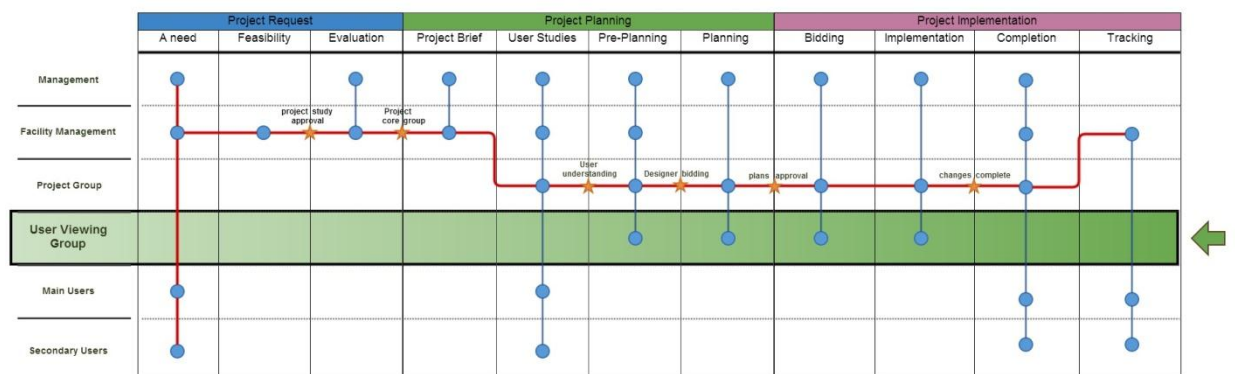


Figure 7. User viewing group added to the project model.

In Figure 7. It is shown how user viewing group participates to the project starting from the user viewing phase. The group is a separate group from other entities in the project and in this model visible on its own, even if they represent the main users. The group would attend the phases until the completion, when it would be dispersed. I will next explain the user review group in more detail.

The user viewing group in practice

During the user studies phase the project would choose or request a number of user representatives to continue as user contacts and review group for the project. This group should present all major user groups, but be very limited in size. From there on the user viewing group would be a link between the project group and the users. The user viewing group would get more information about the project and present it to their organization. Their task would be to give information to the project group when requested and to communicate about changes with the users. They would also have a possibility to communicate towards the project group unlike a regular user who would be expected to communicate via them. If the project group would need information they would get it from this group without the need to engage any other users.

The viewing group would have regular meetings with the project manager or even the project group where they could comment on the plans at hand. A lot of important information would be gained but with a limited workload. How the viewing group functions, how many meetings and what influence they have should be agreed when deciding to use one. This would be dictated by the project organization and enforced by steering committee. Also it would be important that the viewing group would be positive about the change and willing to find solutions and compromise when needed. To achieve this, user and management consensus should be gained in the earlier stages. Also the management should make it clear that the project has power to decide about issues in the project, even if the decision would be against their view.

The user viewing group should have a chairman, which might even attend some of the project group meetings. The level of influence and communication would be chosen by the project group and corporate management before getting users involved. Still for a viewing group to be beneficial would they need to have an active role and some influence on the project. This could be attached for example to the change management system (Mantel et al. 2001, 230) of a project.

Benefits of the user viewing group

The benefits of a project viewing groups would be to gain user knowledge and opinions throughout the project, but limit the participants at the same time. The interview subjects thought that often they could use feedback from users, but that it is too hard to achieve. They rely on the project manager decisions, which often rely on the brief and prior knowledge of the users. Vischer (2012, 126) describes how FM is the general source of information for projects. The proposed user viewing group would let users influence the project, but maintain the amount of work related in user communication and management. Getting user data and input when wanted would prevent the project from making wrong decisions especially when making changes. Andersen et al. (2011, 311) describe how the general failure of project management theory is that it assumes that a project scope can be completely known in advance. They later (2011, 320) explain how; "based on the literature review, it appeared to be likely that user involvement could serve as a tool for avoiding post-project changes". User viewing group would be major asset when such needs arise. Ruuska (2012, 260) says that usually the reviews just confirm what the project manager has already thought and that mostly they help the project itself. Not only does it help to create correct decisions, but also confirms that the project is on the right track.

In addition it could create a group of users that are positive towards the changes to be made and discuss about them with the other users. Ruuska (2012, 164) describes that projects

should have contacts inside user organization that are positive about the changes. Vischer (2012, 126) explains how involving users to the design process could be a great positive force in finding ideas, solutions and also changing attitudes toward the change. Users would show less resistance towards the changes when they would be included and could ask from the participants about details and more information. Project group should communicate the changes and their influence also in normal manners, but the influence of unofficial communication is often underestimated.

Risks of the user viewing group

Including users is thought to be difficult in management sense. Users take up time from designers and possible have opposite interest with the project owner and even each other. The users often want changes and changes always delay the project. Adding time to project schedule costs and postpones solving the problem the project is created for. The traditional view is to limit the changes to minimum (Mantel et al. 2001, 229). The interviews also revealed that projects are still often done in traditional ways, where users are not in a big role. Vischer (2012, 124) describes how the industry is evolving towards more user-centered and how the methods are developed, so the traditional views do not apply anymore.

The risks of involving users during the process of planning and implementation are much the same than in general. Increased costs schedule and demands. It can be thought that the more power is given to the users to influence the project group, the higher the risks. Vischer (2012, 125) explains that user participation needs to be carefully designed for it to be beneficial for both parties. Users need to have influence and be interested about the project, but they can't control the outcome. This is a fine line to walk. Ruuska (2012, 258) explains that lack of experience also increases risks. This sort of method is rarely used and requires learning and brings up new issues to both users and project group. The designers and user for example have a completely different views and even professional language, which might lead to conflict (Vischer 2012, 132).

Involving users might influence the plans and increase cost, Vischer (2012, 135) explains that this might however further support the change the organization is going through and get more user support and value to the changes. The user viewing group should be managed and agreed so that they have influence, but can't take over the control for the project decisions. The exact ways of how they work with the project group have to be agreed depending on the organization and the project. Involving such a group a lot might require skills that are not normally presented in a project group. Agreeing on the roles of the group would help to achieve this.

6 Testing the new project model

The new model is based on the interviews, literature and my experiences in projects. The two development ideas increase user participation and change the role of users in projects. The changes also influence the roles of other project members, most of all the PM. To get feedback and to test the new model, a workshop with two professionals was conducted. Both of them work on facilities management industry. First one is a space planner, who has a role on the early strategic stages of the project, evaluating, setting up the scope and priorities for projects. The second is a project manager that has the project control, once the decision to start a project has been made.

The workshop was held with a co-creation method where the new parts of the project model were discussed and evaluated. Van Dijk et al. (2012, 198) explain that in co-creation the main principle is to collaboratively examine something. A wide range of perspectives are searched with it. The workshop also helped to further confirm the validity of my conclusions from the interviews. Brinkmann (2013, 144) explains that when different people get the same results or agree it increases the validity. Workshop was based on a group discussion research method that is often used to find out opinions and attitudes towards the topic (Ruusuvoori & Tiittula 2005, 226). However rather than interviewing I was also a participant in the discussion. The workshop revealed further interesting issues and ideas about the new phases I introduced earlier. Still the results were mostly consistent with the earlier interviews. The next chapters explain how the research was conducted and the results in more detail.

6.1 Co-creation session

A co-creation workshop session was organized to go study the new model and its possible use in practice. The session begun by explaining the model and the new parts I proposed to increase user-centered approach. I explained how the model could work and what would be the purposes of the new phases. The new model can be considered a blueprint that acted as the common ground for the discussion. Van Dijk et al. (2012, 204) propose that blueprints are a good tool for collaborative use. Rather than modifying the blueprint we focused on the details of how it would work in practice, what could be the benefits or the risks of using it. The discussion was moderated as by several key issues; focusing on the two elements added to the project model presented in paper, and categorizing the issues as benefits, risks or other. Miettinen (2012, 198) describes that moderation can be achieved by structuring co-creation sessions. The session lasted for an hour.

The co-creation session was participated by a space planner Joni Pelkonen who has a major role in feasibility, evaluation and brief phases of a project. It is he's task to see that a project

is aligned with FM strategy and truly supports the organization in long term. The task normally ends by giving out several options for management to choose the best solution that then modified to create a project brief. Also a space planner is in regular contact with users and receives their feedback about facilities and major changes in user needs. The second participant was a project manager Tommi Toivola who is involved in the later phases of a project starting often from the brief onwards. He is experienced in managing projects for external customers. PM has the largest responsibility over a project once the solution has been decided. These two roles cover the whole range of a project. Also their roles overlap. When project is handed over to the project manager and project team the space planner is often part of the handout process towards the project organization. Considering the changes proposed to the model, this is an excellent combination to discuss with. I participated into the conversation bringing into the discussion what I had learned from the earlier interviews and while studying the subject. Also I steered the discussion to maintain in topic as a moderator as explained by Miettinen (2012, 199).

The discussion was not recorded, but the issues were written as they were discussed to a whiteboard and transferred to a written document and modified to a proper text. They were categorized benefits, risks or other. A total of 35 opinions and ideas were picked up from the session. The theme that clearly rose above others was that involving users requires skills that are unfamiliar to typical projects and FM organization. The biggest questions were not so much as could benefits be gained from the new model, but how would it work in practice and how to maintain the risks. The next few chapters explain first the views on the users studies phase and then on the user viewing group. The final chapter reflects in total what was learned in the session and how it should influence the model, when taken into practice.

6.2 Views on user studies phase

The user studies phase was considered possible to implement with some added resources. The benefits introduced to the group were considered to be important and possible to be gained. The workshop considered that such a phase would be possible to include in many of the projects they had been involved in. It would of course have to be scheduled into to a project with enough time for proper implementation. Properly managed this phase could be a valuable tool in getting more knowledge about the users, but also empower the users to prioritize their needs and participate to the project.

The group came to the conclusions that the new phase should be entered with a plan how the users are controlled and scope of what kind of information are hoped from the users. The users should know that they have a possibility to influence, but that they do not make decisions. It was pointed out many times by Pelkonen that the phase has risks of creating more

resistance towards the project, increasing costs and taking more time than planned. It should not be entered without precise agenda, rules and a schedule. The project goals and scope would have to be already decided and the users should know that before any discussions would take place. Also it was pointed out that this phase is an optional one that can be skipped if the project demands it. For example if there is no time for it. In such cases the user knowledge would be gathered in some other ways.

The group agreed that when involving a large group of users, the task would need to be given to someone capable of such a role. Such persons were not considered to be normally present in projects. A person or a group with necessary professional expertise is required for the phase to be successful. He/she would need to have a good knowledge of the project scope and at least some knowledge of the user organization. A person inside the company was preferred by the workshop group. A person from the company itself would have many benefits in knowing the users and being "one of them" in addition to knowing the company better. Also it was considered that the user studies organizer would need to have a strong management support and some authority towards the users.

What also rose up during the workshop was that, during the phase a consensus between the users and the management goals is needed to proceed. During the phase the users need to accept the project. They must acknowledge that they can't change the goals or the high level scope of the project, but influence the details. This should be seen as a positive issue and has to be in a way sold the users. If a consensus between users and management can't be found, the project will face major challenges during planning and implementation phases. The challenges do not change from the normal model, but they are realized sooner. The workshop considered that the project should even be able to step back a phase if the resistance is shown too major during the studies.

Possible benefits of a user studies phase

- **User studies phase re-aligns management and user views and both learn.**
- More accurate and up to date information for the project group to plan with.
- Missing user groups and needs can be realized.
- User studies phase prioritizes user needs and cut out unnecessary needs.
- Empowering users lowers change resistance and increases the success possibilities.
- Users know more about the project and its impact on their work
- Sets up a user organization for planning and implementation phases.

Risks of a user studies phase

- Increased workload costs and schedule.
- More resistance towards the project if the management and user needs do not match.

- More user demands and needs come up when requested.
- Increased unwanted user participation and contacting.
- **The task of managing a large group of users is challenging.**

Other issues and ideas

- All users should be able to participate.
- Phase should be entered with a brief and a plan of what is needed from users.
- The role to manage users is a new one for FM and rebuilding projects in general.
- **The FM organization should already have a person capable of managing users.**
- **The phase should be possible to be passed when necessary.**
- **How is the information transferred to the project?**

Many of the earlier conclusions were also confirmed by the workshop agreeing on them. The lists above present highlights of what kind of benefits, risks and other aspects were confirmed by the workshop and what were brought up completely new in the workshop. The points brought up by the workshop are bolded. Also many other smaller things were brought up earlier and in this session, but this highlights the most important ones.

6.3 Views on user viewing group

The user viewing group was thought by the workshop to be more challenging to implement successfully than the studies phase. It was discussed that the user group would need the time and the commitment to the project, for them to be beneficial to the project. The group would need to have a positive attitude towards the changes and it would need to understand how such projects work. Finding a group or even few persons that fulfil all these aspects could prove to be difficult. To form such a group, it would need to be carefully communicated about what are expected from them. The group however would not have a power to make decisions or change the project if the project itself disagrees. It seems to be critical that a leader of such group would need to be familiar with the facility management perspective and change projects. The group leader would definitely need to agree with the goals and scope of the project.

The workshop was critical about the user viewing group. It was discussed that the success of the method is mostly about who are the members of the group and secondly about how they are managed. Forming a group from a wrong kind of participants would highly increase risks attached to user involvement, cost, schedule and change resistance. Choosing correct attendees would be hard. It was brought up that perhaps the users need to be trained to understand the process and roles of each participant. Also it was considered that perhaps some of the users could be already used to such tasks and therefore be selected for this group. To

manage the group better, the group leader could be not from the user organization but from the FM organization. A person who understands both perspectives.

It was highly emphasized that the user group would be an effective tool of communication and information transfer between the project and users. This would perhaps be the best improvement that the group would make. The project group would get a controlled link towards the users' knowledge and so would the users get a link to the project in more detail. This would help the users in gaining more knowledge and change their organization. Also it would possibly prevent unnecessary rumours, questions and misunderstandings.

The workshop thought that because of the risks, users should not be part of the project group and only attend when specially invited. In general the communication between user and project group should be managed by the PM, so the users don't get directly involved with the designers if not wanted. This even further confirms the fact that projects are not used to user involvement. Understanding that forming such a group is a leap towards better user understanding, but not a complete change to how projects work.

Possible benefits of a user viewing group

- Project group gains a controlled channel to communicate with users.
- User information would be available to designers.
- **Users would get more unofficial information and the group would sell the project.**
- Involving users lowers change resistance.
- Limits user contacting towards the project group.

Risks of user viewing group

- Increased change resistance, if users do not agree to plans.
- Increased change resistance if users feel like they can't affect the plans.
- **Information that is not yet public could leak to other users.**
- Increased user communication creates disruptions to project group work
- Increased costs by changes required by users.

Other issues and ideas

- The user viewing group role is to help the project, not to decide.
- **The selection of the users could make this beneficial or harmful.**
- **Users need to be trained to do what is needed.**
- **Same users represent many projects, so the routine is learned**
- Users get to select the group / **Users should not get to select the group**

To summarize user viewing group presented was thought to be too independent and hard to control how I suggested. The workshop agreed that the benefits could be gained, but without correct participants the risks would be too high. The earlier interviews also hinted that involving users in later phases would be difficult. To lower the risks the users should be already familiar to the FM, trained or chosen so they support the project. They could also be lead by a professional who has the time to attend the discussion and summarize the main points to the project. Limiting user empowerment would also of course limit the possible benefits gained. The communication aspect and unofficial part that a user viewing group could achieve were thought to be the best aspect of this change. As in the earlier chapter highlights brought out by the workshop are bolded in the lists above.

6.4 Evaluating the new project model

The workshop supported the results that the user studies phase could be greatly beneficial on the model created. The workshops members thought that the benefits created by increased user understanding would be enough, even if this adds to the resources needed. Carefully planned the risks listed could be managed. The workshop specially mentioned that gaining user support at this phase would highly benefit the project and outcome. Vischer (2012, 132) for example explains how the conflict can be turned to a positive force. However if the changes would face a lot of user resistance it would give the management a possibility to have a second thought and not face the resistance later. Mantel et al. (2001, 34) describes that conflict is always present in projects and has to be negotiated. Successful management requires the PM to realize what issues should be a concern and what can be overlooked. Adding new phases or more user involvement would change the schedule, but this was thought to be a minor issue of changing the projects length to involve them. Before the planning phases begin the actual costs of the project is not as high. The projects and organizations are different and in some occasions the user studies would be with a more limited model.

Involving users later during the planning was reviewed critically. The workshop was skeptic about getting users involved with the project group too closely. The contacting would primarily need to be between the FM members, project manager and very limited users. A big question was that, if the earlier phases are done correctly, do users really need to participate later. Involving users to the later planning phases of the project would have to be planned, controlled and mostly communicative. Creating clear and additional paths of information flow was however considered to be the most positive and welcome change.

The most important questions raised by the workshop were mostly not related to, would the changes in the additions be possible or beneficial, but to who could manage such an additional tasks. They were not considered to be tasks for any current participants in a typical project

group. The tasks related to gathering user knowledge and managing users during the project are new. Involving users require skills that are not typical to project organization responsibilities. Also many FM organizations lack skills that allow users to participate. Completely new roles would be required for a project to fulfill the new process model successfully. Several thoughts were presented about should the project group receive a new external member that would manage the user studies phase and possibly even the user viewing group. Another really interesting suggestion was that the FM organization should have a member capable of user management and user studies. This person would fill the gap between the users and the project organization.

7 Conclusions

All professionals that participated to this research agreed that with more knowledge about user needs, the projects could be more successful. The results of this study prove that the benefits can be achieved by changing the process. The changes could improve not only the quality aspect of projects, but when perfected, save costs, lower resistance and improve the communication during projects. Gathering more knowledge on users can only be achieved by involving more users to projects. Involving users has both risks and benefits. By planning the change process correctly and managing it, the risks can be minimized and the benefits increased. To achieve them the current process must be changed and altered to be more user-centered.

The research reveals that changing the project model requires changes from the organizations managing the projects. New roles, methods and perspective are needed to change the projects and to involve stakeholders in various ways. This is a challenge the industry is facing. Developing new things does not come easy when projects are already challenging. Also the possible benefits gained are changing the projects in a ways that are hard to measure. The change should perhaps begin gradually from inside the company and be extended to project management part of the FM environment. As the environment and networks around FM develop and prove how user-centered perspective gains momentum, I trust that also the FM will slowly change.

This thesis describes how projects work and who are involved. It then continues to prove that professionals and project participants think that users hold potential that is unused and could be used to gain multiple benefits. The project model was developed to harness these benefits by adding a phase and new roles to projects. And finally the new model was tested to understand more about the potential and risk that using it might include. These final chapters explain how the model could be used and summarize some major discoveries during the research. The last chapter explains what new possibilities and questions were revealed during

the research. This opens new door on how to continue developing the facilities management industry.

7.1 Changing the process of a facilities change project

The results of the research clearly indicate that the change process should be developed towards more user-centered. On a more detailed level the research points out where could the process are changed towards this new perspective. The research also studies the benefits and risks of the new parts of the model. In a bigger picture changing the project model changes the relation that the FM has with the users and management. The changes on the model require changes not only on the exact parts of the model, but on various aspects of the facilities change process and organization. Also it has to be remembered that all organizations have their own variations of the process, even if the general pattern remains similar.

To implement a user studies phase in to a project an FM organization has to be open and share the future plans with the users before the project proceeds to planning phases. The phase has to be implemented after the project briefing phase, but before the actual planning begins. This leaves little or no options on when should the phase be implemented. The general purpose of the phase would be to involve all or at least most of the stakeholders to the discussion to learn more and to empower users. This thesis does not describe on how this should be done, but various methods are used as an example. Workshops and digital tools were mentioned in the interviews. The second big question along with the methods of involving users is; who should manage this new phase. Unfortunately this remains unanswered and remains for the organization to choose. The phase would give the project group more information and prevent mistakes made during planning. This would improve the costs and the quality aspects of a project. It would also among other things improve stakeholder satisfaction.

Once a project enters pre-planning and planning phases user influence must be limited. Even the interviewed user agreed that the project group can't be having too many users to manage. However having a small group of users contacts available could be an asset for the project group. Discussions and contacts between the users and the project group must be directed trough a project manager or some other person. A user viewing group should be more about transferring information and helping out the project group than continually evaluating the plans. The project working and phases should remain as they are starting from pre-planning. Most importantly a user viewing group should be positive about the changes and aim at helping the project group at reaching the project goals. They would also need to understand the users, but also the management and project perspectives. Finding the correct members would be the most critical aspect and could also be the most difficult one. Whether the user organ-

izations should form a user viewing group is to be decided depending on the organization and project. A positive influence by creating a user viewing can only be achieved if the group consists of individuals that are suitable.

To implement either one of these changes a project group would need additional resources and time. Time could be added when planning the overall process. The resources on the other hand require more consideration. The added user studies phase requires both understanding how to involve users and the limitations of a project. The research revealed that changing the project model, would require new role to be added to the project. In short this person or a group should be able to manage a large group of stakeholders with different priorities. Gaining the benefits from the new model seems to depend greatly on these new tasks. The research does not give answers on who this should be, but it is preferred by the interview subjects that a person capable of managing the phase would come from inside the organization, possibly aided by a professional in workshop or other methods. An external would need to be carefully guided by the FM organization to understand the priorities of the project and guide the user discussions inside these frames.

To reach the full potential of changing the process, the FM and user organizations would need to support it. An FM organization should plan the process in a way that the risks are understood and the user involvement is also counted in as some additional time and resources. The amount of added resources is much dependent on the organization. The researched opinions support that the benefits will be greater than the additional time and work. Also the user organizations should understand why they are involved and what the benefit is for them. This requires careful communication and eventually a culture of understanding user involvement. It is not the users' task to agree/disagree with the general project, but to give information and guide the project group to make better decisions about details. They would be gaining a possibility to influence and this should be embraced and supported.

7.2 Renewing facilities management

This research answers questions on should user be more involved and where could this be placed in the process, but creates completely new questions as well. Changing priorities and perspective in projects would require change in the FM organization and their viewpoints. As explained before FM dictates the process and who is involved. So in fact, changing the FM organization would impact greatly on projects. It is the task of the FM organization to create a brief and hand the project to a project group to work on. FM should increase user knowledge in projects and perhaps also be responsible for the user studies phase completely. This was clearly a topic of interest in the interviews.

To achieve better understanding of uses needs there is a need for innovation of roles and views on projects and how to manage them. This was also recognized in the interviews, but excluded for it goes out of this research scope. FM could be developed at least in two ways. First by increasing the user understanding and communication before projects are begun. This could be achieved by further developing the networks and co-operations between FM and business organizations. Secondly by changing current or creating completely new roles that support user-centered approach in projects. These roles could help also in the new user studies phase and the user viewing group by participating or even managing either one.

Whatever the change, FM has to change the project priorities to include user involvement and new methods. By investing more resources during the project, better projects could be achieved. This requires a change of culture from the FM organization and for them to require this from projects they manage. The new issues would be included in the very beginning of a project. Then, when choosing professionals for projects, this would rise up as one of the criteria.

7.3 Possibilities for further research

This research confirms that user-centered approach has benefits in projects. Some of these benefits could be achieved if the new model would be implemented. In addition of creating this new model, the research has revealed many other topics related to projects, FM and user-centered approach. Most of all it seems that projects can't be developed without developing FM organization in general. The most important new discoveries and new research directions are explained below.

In this study I chose not to implement the new model into an actual project. Creating a case where the new model or parts of it are used would create more information and ideas on the practicalities. Once the benefits would have been proven in a project, the model would gain prestige and perhaps user-centered approach would gain more ground on the industry, as it has done in several other fields. Also the exact methods that could be used, when involving users, have with plenty of possibilities. New research methods and methods to include users are developed all the time. Service design is one of the fields pioneering in these new methods. There is little study of testing them out in facilities management field.

It was noticed from the interviews that FM organizations face an everyday challenge of knowing the users and continuously co-operating with them. They should guide the projects toward the user-centered approach and really know the user needs themselves. The roles in FM organizations however are rather traditional. Changing the FM organization and roles is an interesting area of research. How should the FM organization be developed to better under-

stand users is a question that raised as one of the three most important focus points of this research. The topic however was too big and not directly related to projects, so I had to exclude it. Creating permanent links with user organizations could offer possibilities to improve projects as well. Perhaps the contacts could be used in projects. This way the users would be represented before and during the projects. They would also learn new ways to co-operate with FM so they could perhaps be included more to the whole project process without disrupting it.

In general level the user-centered view is new in FM and even more in construction professions. It still faces opposition because of the risks involved. It will slowly gain ground from connections with service design and design thinking. Once successful projects are implemented with new methods and views the use will increase. It offers a fruitful and interesting field for research and development for the whole industry.

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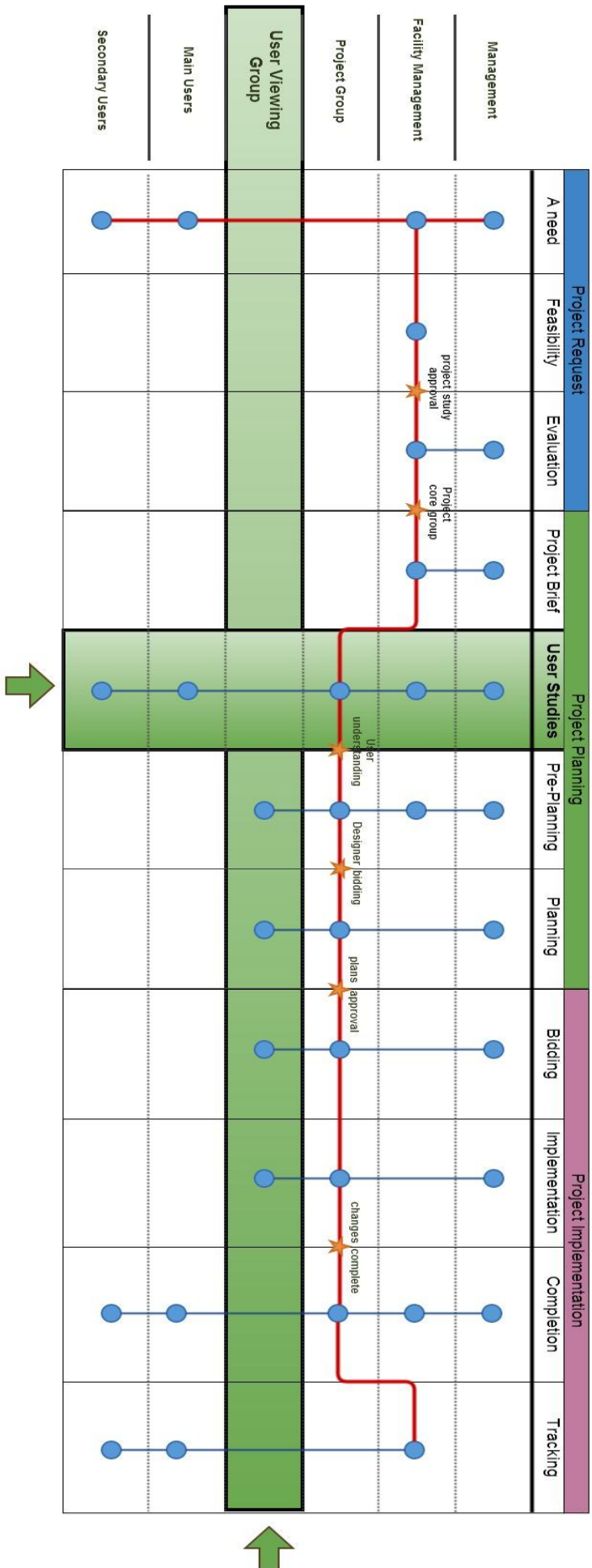
Elite interview guiding questions

English

- Are user needs and users recognized well enough?
- Are users represented enough during the projects?
- Does the initial information of user needs change during the project?
- Could the projects or parts of them be improved by understanding users better or involving them more?
- How should the user knowledge and user involvement be increased?
- What problems and benefits are involved in user participation
- Who should decide what kind of role users have in projects?

Finnish

- Kuinka hyvin käyttäjäryhmät ja käyttäjätarpeet tunnistetaan?
- Ovatko käyttäjät riittävästi edustettuina projektien aikana?
- Minkälaisia muutoksia käyttäjiltä saatuun tietoon tulee projektien aikana?
- Voitaisiinko projektien lopputulosta tai projektin kulkua parantaa ymmärtämällä paremmin käyttäjiä?
- Miten käyttäjälähtöisyyttä voisi parantaa?
- Mitä hyötyä tai haittaa käyttäjien osallistamisesta voi olla
- Kenen tulisi ylläpitää käyttäjien tarpeiden toteutumista projekteissa?



Workshop: 15.11.2013
Participants: Joni Pelkonen, Tommi Toivola, Lasse Karvonen
Location: Keilalahdentie 2-4
Length: 55 minutes

Co-creation workshop on the new project project model.

Listed opinions, ideas and issues on user studies phase

Hyödyt

- Usein management ei ymmärrä käyttäjiä (erilaiset työtavat). Tämä vaihe selventäisi mitä käyttäjät tarvitsevat. Usein projektin toteuttava osapuoli kerää tarpeet liian korkealta.
- Säästytään turhilta hankinnoilta. Säästyy rahaa ja aikaa. Korjaaminen myöhemmin kallista.
- Projekteissa tärkeää luoda konsensus käyttäjien ja tilaajan välille. Muuten projektiin ei olla tyytyväisiä. Tämä ei ole projektiryhmän tehtävä vaan se voitaisiin saavuttaa tässä vaiheessa.
- Jos tässä vaiheessa tehdään selväksi miksi projekti toteutetaan ja että vaikutusmahdollisuus on vain tässä keskustelu ei jatku myöhemmin. Projekti säästyy ylimääräiseltä keskustelulta.
- Jos käyttäjät ymmärtävät projektin rajallisuuden he voivat priorisoida itse tarpeitaan.
- Myöhemmin projektilla ei ole aikaa käyttäjille. Suunnittelijat eivät ymmärrä käyttäjiä vaan jonkun pitää kertoa heille asiat.

Riskit

- On haastava rooli hallinnoida käyttäjiä. Kuka tätä vaihetta hallinnoi?
- Aika, raha, työresurssit. Vaihe pitää huomioida projektia aikatauluttaessa.
- Vaihetta ei voi pitää kuka tahansa. Ei ainakaan suunnittelijat tai PM.
- Jos ei käyttäjän ja johdon näkemys ei kohtaa on oltava valmis palaamaan taaksepäin tai saatava käyttäjät ymmärtämään tavoitteet yrityksen kannalta.
- Miten tieto siirtyy suunnittelijoille tai projektille?

Kehitysideat

- Tärkeää kuinka viestitään vaiheen rajat. Viestintä oltava selkeää niin että vaihe saadaan päättymään.
- Vaiheen pitäjällä tarpeeksi vahva asema sekä johtokunnan tuki.
- Projektista kerrottava ennen kuin tilaisuus pidetään. Käyttäjille tarvitaan sulatteluaikaa ennen kuin keskustellaan heidän tarpeistaan.
- Vaiheen johtavalla osapuolella oltava valta käyttää "VETO" oikeutta ja palautettava vaihe johtokunnalle.

Muuta

- Vaihe pitää pystyä ohittamaan tarvittaessa, jos riski projektille on liian suuri.
- Vaiheen johtava henkilö voisi olla organisaatiossa jo valmiina? Tuntisi käyttäjät, hallitsee käyttäjäkommunikoinnin, ymmärtää projektin tarpeet. Tällainen roolitus pystyisi johtamaan vastaavan vaiheen.
- Projektit aina erilaisia
- Projektin tarkoitus ei voi muuttua enää tässä keskusteluvaiheessa. Vaiheen sisältö on priorisoida tärkeitä asioita ja osallistaa.

Listed opinions, ideas and issues on user studies phase

Hyödyt

- Hyödyllistä jos on ryhmä keneltä kysyä asioita tarvittaessa.
- Ryhmä voisi toimia viestinnällisenä elimenä
- Katselmusryhmä olisi hyvä jos he olisivat projektin puolella. Mutta miten se saavutetaan?
- Jos ryhmä vaan kommentoi niin hyödyllinen

Riskit

- Käyttäjien sekaantuminen suunnittelijoiden toimintaan on suuri riski
- Mitä jos käyttäjäryhmä on projektia vastaan?
- Käyttäjien toiveita ei kuitenkaan voida helposti enää kuunnella ilman että se tuottaa lisäkustannuksia
- Onko käyttäjillä tammöiseen aikaa? Tämähän on jatkuva prosessi.
- Mitä jos käyttäjät jakavat tietoa väärin eteenpäin?

Kehitysideat

- Käyttäjäryhmän vaikutusmahdollisuudet oltava todella rajalliset.
- Kuka ryhmää hallinnoi?
- Ryhmä saisi viestiä vain projektipäällikön ja sovittujen osapuolten kanssa.
- Mitä jos FM organisaatiosta joku johtaa ryhmää?

Muuta

- Rajallinen vaikutusmahdollisuus, Enemmän kommunikatiivista
- Ryhmän oltava sitoutuneita ja positiivisesti suhtauduttava projektiin
- Miten valitaan?