BUILDING UP COMMITMENT AT THE FINNISH RENOVATION INDUSTRY

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ABSTRACT

This paper illustrates a special case in public procurement of innovation: a collaborative user-oriented R&D project representing the 'fuzzy front end' of innovation taking place before pre-commercial procurement. The project called 'IKE' generated an innovation of resident-oriented apartment building modernization, which was revolutionary in the strictly technology-oriented and conservative industry.

The proactive project strengthened the dialogical connection between public and private sector and built up significant stakeholders' commitment to resident-orientation at the renovation sector. According to the case study, stakeholders committing to the user centred process innovation required three preconditions: technical and social pressures, interweaving stakeholders to a development network, and the unique engagement of residents and professionals in co-design workshops.

INTRODUCTION

Most of the apartments in Finland are in housing condominiums. The expense of their prolific renovation has constantly grown. Today a typical plumbing renovation cost of an average family apartment is more than 45 000 €. The residents typically own their apartments and cover the renovation expenses but they have only little influence on the planning, designing and implementing the renovation. Instead, three to five members at a board of residents together with a professional house manager and renovation practitioners answer for the decision-making and implementation plan of the renovations. The other residents' voices usually sink down under prevailing hustle and bustle. The apartment owners are not alone with their problems, because the Finnish nation has a vast amount of residential buildings reaching their technical expiration within the next few decades. The estimated increase of renovation need is 1600 % from 1990s to 2020s (Virtanen et al 2005:11).

Public procurement of innovation aims at addressing these kinds of public problems that are typically complex and connect multiplicity of actors (European Commission 2007; Rolfstam 2009). By overtly simplifying, public sector's role lies in ordering and purchasing innovations while private sector is responsible for the implementation.

This paper is based on an ongoing longitudinal case study about the impacts of a collaborative user-oriented R&D project *Life Cycles of People and Property* (In Finnish Ihmisten ja kiinteistöjen elämänsyklit, IKE) that took place in 2004-2005 (Virtanen et al 2005). The project IKE investigated how the complex system of Finnish renovation industry could be enhanced, and was co-funded by the Ministry of the Environment and one of the partner companies. The project generated a process innovation: resident-oriented apartment building modernization. The innovation paid attention to the residents' experiences on renovation processes and its results. It also addressed the notion of modernizing apartment buildings meaning that they are not only renovated by the original standards but updated to meet the contemporary demands. Considering the residents as equal partners instead of a nuisance was revolutionary in the strictly technology-oriented and conservative industry. The innovation led to an array of consequences, e.g. new policies, follow-up R&D&I projects and new professional tasks, which have shifted the focus of the renovation sector towards resident-oriented services.

How did the industry started to change? What kind of factors contributed to the innovation and its diffusion? Drawing from Pfeffer's (1981) ideas on conditions for commitment, we claim that favourable innovation consequences (Rogers 2003 [1962]) arise of building up commitment to a shared goal. The

process innovation – resident-oriented apartment building modernization – was a goal for the renovation sector to be developed and implemented after the project IKE.

In the paper we investigate how the commitment to the user centred process innovation was built up among renovation professionals. The commitment did not occur in particular events or because of a single driver, but via an interconnected network of various actors. Building up the commitment required according to the case study three preconditions: 1) technical and social pressures that challenged the sector to transform itself, 2) interweaving oneself to a development network, and 3) unique engagement of the professionals with the residents in workshops. All the three preconditions were needed to build up the commitment, meaning also that participatory innovation does not happen in a vacuum but amidst complex systems. Following the analysis of commitment, we discuss the implications of our results on the public procurement of innovation. We suggest that public sector needs to allocate procurement also for emerging topics that the pioneering practitioners raise up based on their experiences at field.

BUILDING UP COMMITMENT WITH SUPPORT OF PUBLIC PROCUREMENT

PUBLIC PROCUREMENT AS AN ENABLER OF INNOVATION

Public procurement of innovation refers to the public sector's role in ordering and purchasing innovations. It has been discovered that via procurement, the public sector may stimulate innovation more efficiently than other supply-side policies (Rolfstam 2009). Public procurement can also be used for stimulating technical development, coordinating demand and accelerating product diffusion to markets. As an incentive for public procurement of innovation EU, and Finland among other member states, have launched innovation policies to enhance the competiveness of nations, to reinforce the innovation capabilities and to improve public services (European Commission 2005; European Commission 2007; Kansallinen innovaatiostrategia 2008).

Public procurement of innovation embodies a phase called pre-commercial procurement (European Commission 2007; Rolfstam 2009), which delivers innovations for later use in various ranges of the society. A constitutive definition and policies for pre-commercial procurement are still under discussion (European Commission 2007; Rolfstam 2009; Rolfstam 2010). Current interpretation of pre-commercial procurement refers to an approach to procure R&D services that are based on "Risk-benefit sharing [among public and private stakeholders] according to market conditions; Competitive development in [iterative and evaluating] phases; and Separation of the R&D phase from deployment of commercial volumes of end-products" (European Commission 2007:6-7).

At the Commission's communication (2007) to the European Parliament, pre-commercial procurement is situated between 'a product idea' and 'first test-products'. Pre-commercial procurement thus funds R&D activities once the initial idea has been identified. At least it requires a preceding definition of a problem for "inviting a number of companies to develop in competition the best possible solutions to address the problem" (European Commission 2007:9). Thus, pre-commercial procurement includes elements of a top-down system, as "knowledge about the problem needs to be communicated to suppliers and also, awareness of available solutions needs to be communicated to the procurer" (Rolfstam 2010:5). The role of the non-public or non-governmental parties is essentially 'a supplier' or 'a deliverer' without having an opportunity to make incentives on identifying the relevant problems.

The phase before pre-commercial procurement is called 'Curiosity Driven Research' and 'Phase 0', which probably refer to finding out the problem at the front end of innovation. European Commission (2007:3,8) has not yet defined its objectives.

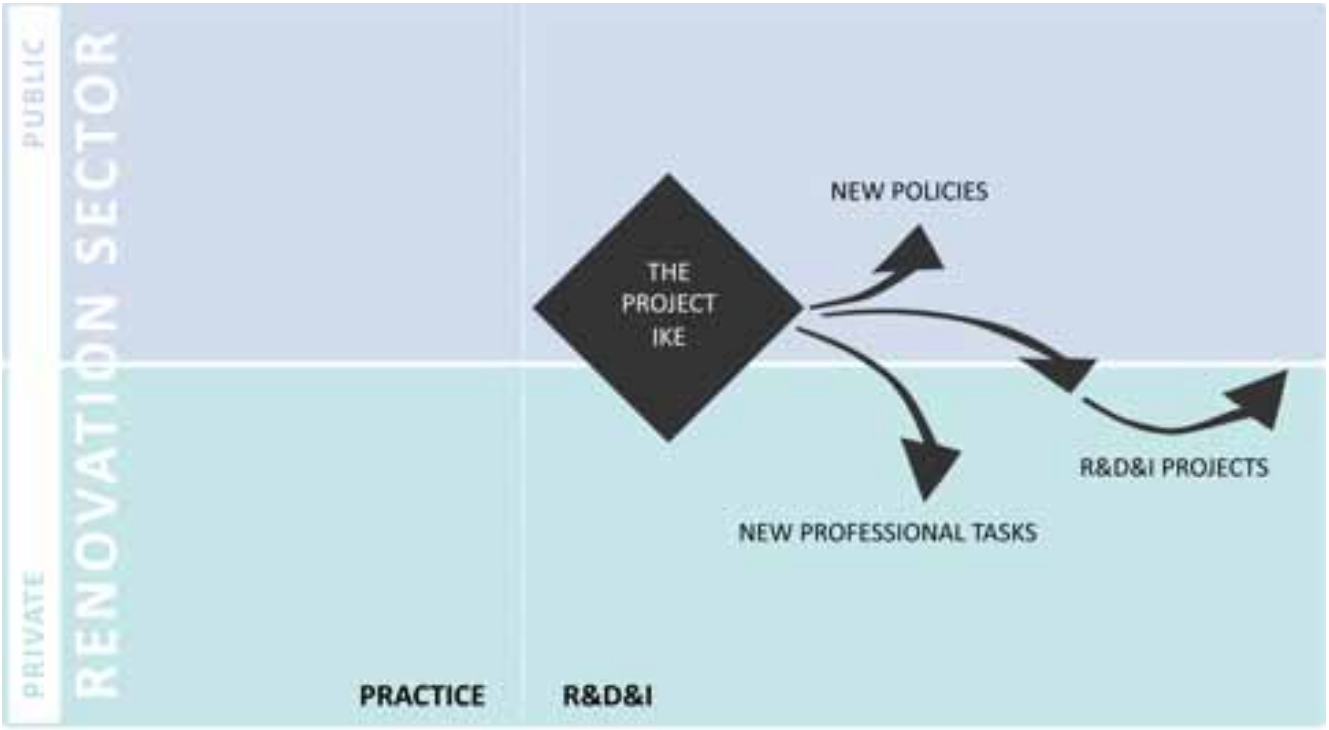
COMMITMENT FOR CHANGE

Commitment has an important role in developing better futures because it has an impact to preceding actions: "commitment involves the binding of an individual to a decision, so that consistent beliefs develop and similar decisions are taken in the future" (Pfeffer 1981:290). A committed person thus sustains the object of commitment, and a group of committed people likely pursue a similar goal.

However, getting committed is not a rational decision. It is a process, in which power, emotions and participation affects (Kanter 1972). Pfeffer (1981) discusses causes and effects of commitment. He presents three conditions for commitment. The first condition is: "Freedom to choose from among a set of options, an individual will become more committed to the choice" (Pfeffer 1981:291), meaning that volatile choosing engages people. Secondly, being exposed to public actions or even publicity influence commitment, because it "is also produced to the extent that the chosen behavior is made public" (Pfeffer 1981:292). On the other way around it suggests that private actions can more easily be taken back or forgotten. Thirdly, Pfeffer (1981:292) claims that commitment occurs if actions cannot be changed without regretting, "commitment occurs when the publicly chosen behavior is also irrevocable".

Commitment is somewhat enduring. Another way to say this is that when people invest to a matter, people are more likely to continue with similar actions than changing the course (Kanter 1972). Therefore, "the difficulty [of commitment] is that once decided, courses of action become difficult to reverse" (Pfeffer 1981:290). This may complicate building up a shared commitment among development network stakeholders because people may have prior commitments, and to build up a new commitment, the earlier one needs to be replaced or re-directed. When we interpolate this with the complexity of organizations that are "pluralistic and divided into various interests, subunits, and subcultures" (Pfeffer 1981:28) and also multiplicity of stakeholders, any attempt of advancement seems complicated.

All the designers and developers identify the difficult task of promoting a profound change. Making a favourable change is not a simple step-by-step task but a negotiating process embracing multiplicity of factors. European Commission seeks for better value for money by early commitment: "Earlier engagement in the innovation process enables public authorities to detect at an earlier stage potential policy and regulatory issues that need to be addressed



Picture 1: The project IKE was co-funded by public and private sector. It led to an array of consequences within two years after it was ended. Examples of consequences are: new policies, follow-up R&D&I projects and new professional tasks.

in order to ensure timely introduction of the new solutions into public services and other markets." (European Commission 2007:8). Rolfstam (2009:353) states that innovation diffusion requires certain circumstances, "a social system may not adapt an innovation if it does not match the prevailing institutional set-up". When dealing with public problems, the set-up need to be identified, i.e. what kinds of stakeholders there actually exist, or should exist.

New stakeholders outside the customary set-up, such as co-designers, can boost change because "change in organizations is largely externally induced" (Pfeffer 1981:331). However, the 'outsiders' need to accommodate to the set-up. According to Thackara (2005:226), designing complex systems needs a holistic approach. "It involves a new relationship between subject and object [of design] and a commitment to think about the consequences of design actions before we take them". Designers are not the only ones to contributing to change of a complex system. Commitment to a clear goal among the stakeholders merges development efforts that otherwise would divert.

PROJECT IKE

The data of this paper stems from an ongoing longitudinal case study. The case examines the impacts of a half-a-year project *Life Cycles of People and Property*, IKE, in 2004 to 2005 (Virtanen et al 2005). It was launched to examine holistically the critical points and the best practices of renovations of residential buildings in Finland. The focus was especially at the previously paltered perspective of residents in relation to technical expiration of apartment buildings.

The project IKE was the first collaborative attempt in the sector to get grips with the imminent workload the sector would phase within the next decades. The project generated a co-created innovation of resident-oriented apartment building modernization. The innovation was divided into development proposals to execute the innovation. All the proposals would require joint efforts whether they would relate to strategies, services, technologies, funding or resources. One of the proposals suggested "to create a concept of mutual cooperation and service between residents, the housing condominium and construction, enabling the parties to work together to renovate and improve buildings" (Virtanen et al 2005:80).

The user-oriented process innovation generated an array of consequences. The picture 1 shows how the consequences have led to changes both on the private and the public sector. For example, the Ministry of the Environment applied the project results at their renovation strategy planning, and launched a definition of policy for the built environment maintenance and renovation in 2007 (Korjausrakentamisen strategia 2007). Also a new competence cluster 'Living Business' had its kick-off in 2007 to improve the "networking between the participants tighter and thus speed up the development of solutions to serve residents" (www.oske.fi). The user-oriented ideology of the project IKE was applied in the formation of the cluster. One of the leading themes of the cluster is called also *Life Cycles of People and Property,* and is a follow-up project to develop new service processes and practices for renovation. In addition to these political and multi-actor-projects, more practical consequences have emerged. An engineering company has extended its human centred competence, e.g. by hiring a public relations professional. Her task is to develop communication approaches for the company's customers including all the residents in the apartment building under renovation, in parallel with the members of the board of residents.

The project was most of all a learning process through constant collaboration, negotiation and re-negotiation within

the multi-disciplinary team (Soini and Pirinen 2005). These kinds of projects that merge research, concept design and planning strategies have been conducted at universities (see e.g. Bødker and Buur 2002; Johansson et al 2002; Mattelmäki 2005; Soini 2006; Halse et al 2010). In these cases, called also co- design, universities did not only produce reports, but also enabled sharing of knowledge and inspiration with stakeholders by intensive collaboration.

Two years after the project IKE ended, 67 participants were interviewed to gather interpretations on the history, working methods and impacts of the project. The interviewees consists of people from four project organizations – a leading engineering company (management and co-funding of the project), an established housing communications consultancy, a design university, and the Ministry of the Environment as the financier – as well as residents, constructors and other stakeholders within the complex system of renovation. The first author participated in the project and holds an insider's knowledge in addition to the research data.

This paper is based on the analysis of four key players' interviews. These players hold a unique access to the occurrences at the renovation sector and act as opinion leaders. We assume, that together they have a good overview of the development trends by representing policy-making, renovation practitioners, publicity and research. At the interviews they emphasized change trends in the renovation sector and also criticized it of being in the slow lane of progress. Their personal impact is shown typically through attempts to improve the renovation practices. The interviewees discuss organizational aspects by showing examples of practical improvements and strategic goal-settings.

The analysis builds a story of the project by clustering and highlighting similarities and eye-catching exceptions in a case study manner to achieve rich description. Early findings illustrate the role of commitment (Pfeffer 1981) in participatory innovation. Thus, this paper does not discuss the working methods of participatory innovation but the relations of user-oriented collaborative design and the larger industry level development processes.

BUILDING UP COMMITMENT: TECHNICAL AND SOCIAL PRESSURES AT THE RENOVATION SECTOR

Early 2000s renovation industry faced numerous challenges. The main one was the technical expiration of apartment buildings. In Finland, the majority of apartment buildings were built since 1950s and 63% of the property was built since 1970s (STAT 2008). Technical expiration is cyclic, and e.g. renewal of the plumbing system is faced every 40-50 years (Virtanen et al 2005). Consequently, the property constructed during the peak decades are becoming to the age of plumbing renovations.

The renovation sector was not prepared to face the workload for instance because plumbing renovations have become common only since 1990s as the apartment building built in the 1950s faced the renovation need (Virtanen et al 2005:9-12). Experience had not yet accumulated and in 2004 the field embodied as many practices as practitioners. The practitioners disagreed about the benefits of various traditional and alternative methods. Prices for renovations had a wide range. Nobody was able to evaluate the durability of various trial solutions. The amount of renovation practitioners was too small to cover the demand for renovations in 2004. The practitioners were concerned how they would be able to respond to the demand when the need for renovation would increase.

More reasons for the chaotic situation were found during the project IKE. In the early days renovation practitioners applied methods of the new construction production. However, building new apartment buildings has a logic that is not easy to convert for renovation. When building a new apartments, the potential resident can choose if she wishes to invest or keep on searching. Renovation providers, in contrary, invade residents' homes and everyday lives.

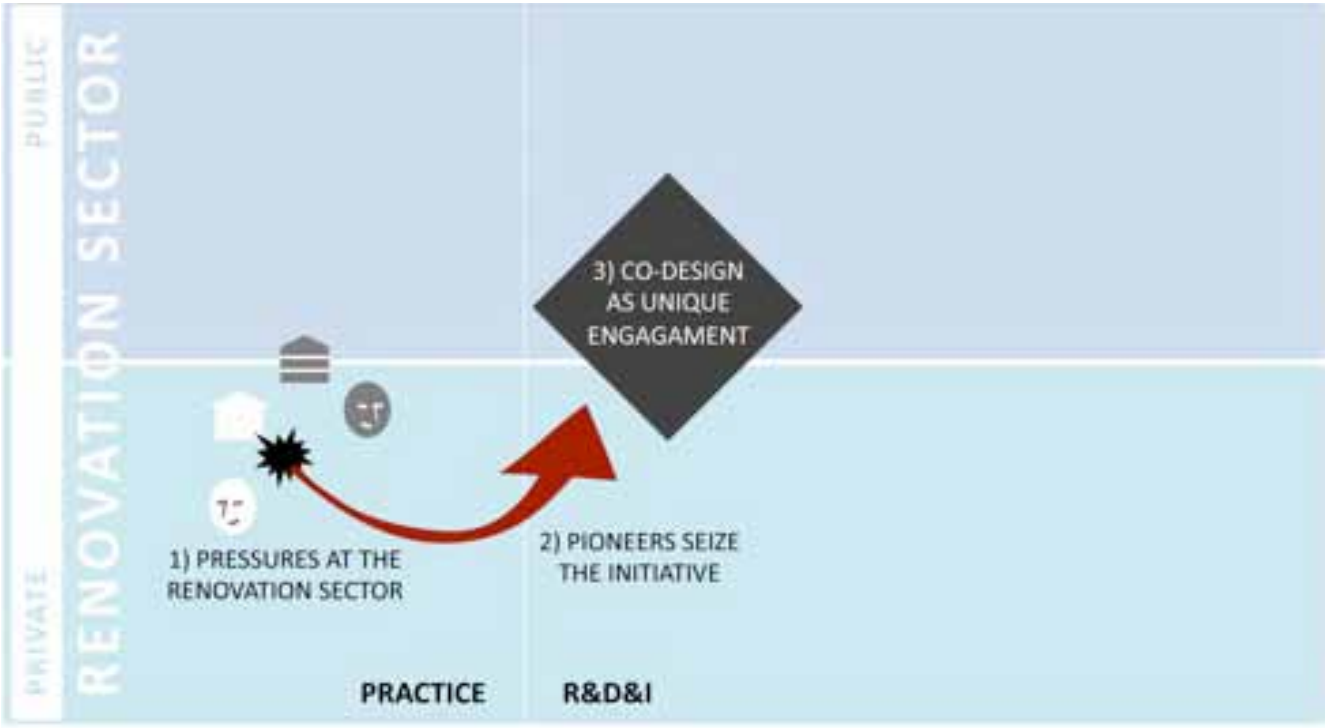
An example of this conflict was found during the project IKE as a resident told her story of a lost bathtub. She described her Friday night ritual. After work she was used to fill the bathtub with hot water. She sprinkled some scent into the water and arranged candles around her. Then she took her glass of wine and slid in the bathtub to relax and to declare the weekend was there. During the planning phase of the plumbing renovation at her apartment building, the engineers and architects decided that all the bathtubs would be removed from the building. They did not listen to residents' protests. Not even the resident of our example had influence, even though she was a member of the board of residents and therefore was supposed to have power within the process. The industry has neglected the service-oriented mindset and focused on technical issues.

At the picture 2 all the three preconditions for building up commitment are presented as an interconnected network. The first precondition for building up commitment is one dimension at the network. It represents the technical and social pressures that challenged the sector to transform itself. The renovation sector, pioneers among the first, decided to make a change like Pfeffer's (1981) first condition of commitment is choice. They had prior commitments to for example technical processes. They also realized that if they wish to maintain their role as opinion leaders at the sector, they were ready to look familiar issues anew. The risk to loose control and on the other hand the attraction of taking control over the chaotic and threatening situation built up commitment to the new resident-oriented goal. The stakes at hand were high enough to attract their efforts.

BUILDING UP COMMITMENT: INTERWEAVING A NETWORK

Until 2004, development of the renovation sector composed of dispersed projects on methods of planning, constructing and evaluating. Individual organizations had developed their practices and tools only to tackle burning technological challenges. Any coherent multi-stakeholder projects involving residents in parallel with technologal issues had not been conducted.

In 2003 three business associates organized a meeting to figure out what they could do with the subject at hand. They had remarkable experience in the renovation and housing industries, and were able to identify the challenges earlier than other practitioners who only tried to cope with the growing demand. The CEO represented an engineering company that was a valued pioneer at



Picture 2: Innovation consequences are generated with the support of commitment to a shared goal. Building up the commitment required three preconditions in the project IKE: 1) technical and social pressures that challenged the sector to transform itself, 2) interweaving stakeholders to a network, and 3) unique engagement of residents and professionals in co-design workshop.

the renovation sector. Two communication professionals had vast experience in multiple mediums of housing communications, and also in developing suburbs and social funding for renovation in 1980s. They held a realistic conception of the renovation industry and knew that the technical expiry would not be solved with the prevalent system of renovation. They were also concerned on societal impacts of the elderly residents' independent coping, and saw a potential in combining the interests of people and property. They predicted a huge business opportunity but felt helpless in the face of the challenge. Occasional R&D projects would not solve the problem, but a large national development project was needed.

Once an acquainted director at the Ministry of the Environment agreed with the urgency and importance of the objective, the initiators started to gather research and steering groups through their extensive networks. The groups combined of people from the ministry, companies, associations and a research unit. The members were established experts in the renovation sector but also a "joker in the pack" was needed. A design university was invited as the research partner instead of the regular suppliers because of its reputation in user centred design approach. The director of the research unit was a business associate, which reasserted the validity of the unit. The final project group comprised of an engineering company, a housing information centre and a design university.

The project objectives were co-defined by merging the interests of the project and the steering group members. The aims were elaborated through out the project after they had been defined at the project plan. The project was the first part defining the development needs of a larger national development process. The design researchers argued with the ISO 13407 (1999), standard for Human-centred design processes for interactive systems, the importance of understanding the problem before developing it. This would spare from wasting resources and also eventually speed-up the enhancement of the renovation sector. The project IKE would follow with iterative development and piloting phases.

The original idea of people and property aging together broadened out to include people in various life situations. The examination of renovation projects focused to plumbing renovations, which are the most extensive and challenging because the renovators invade residents' homes and everyday lives. Acquired understanding would later be applied to other simpler renovations such as facades or elevators. The data was collected in three real projects representing differing phases: planning, constructing and using. The initial idea was to develop technical renovation tools and processes in parallel with the research. This changed to multi-stakeholder interaction rehearsals in workshops because of the time constraints and also emerging user-oriented understanding

The second precondition for commitment is interweaving oneself to a development network (see picture 2). The project participants used their networks to form the project. Therefore, they invested their reputation for the cause, and made it apparent to all. According to Pfeffer (1981) they made their intentions public, which influenced their commitment to the subject. By acting towards enhancing the renovation sector from the residents' perspective, they built up commitment towards similar actions in the future.

BUILDING UP COMMITMENT: UNIQUE ENGAGEMENT OF PROFESSIONALS AND RESIDENTS

"Share the goal; share the work; share the results" (Thackara 2005:220-223).

This was also the central idea in the project IKE. Innovation is said to be an emergent phenomenon that may occur when individuals or organisations interact with each other (Thackara 2005:218). Design researchers who conducted the user study and the participant workshops realized that the complex subject has to be handled in a multi-disciplinary and collaborative manner: the project was constant collaboration, negotiation and re-negotiation of the multi-disciplinary team. By joining forces the project was able to work effectively and thoroughly. In half a year the project IKE defined a set of development targets for the industry. Beyond efficiency, collaboration is also empowering and prepares participants for future tasks. Participation on research and co-design activities created a foundation for sustainable collaboration. The participants shared a goal, with which they may take coherent actions in the future within their business or life.

The project put emphasis on joining the participants' different missions. The aim was to engage as much stakeholders as possible during the project. The project and steering groups consisted of 17 people. In addition to them 50 residents, practitioners and other stakeholders participated the project. Project IKE participants represented a variety of stakeholders from individuals to organisations to renovation industry and all the way to government level. Their different views were appreciated as an advantage (Johansson et al 2002), but synchronizing their missions became crucial (Thackara 2005). A key factor for joining the missions was to involve participants in design events in a way they themselves saw purposeful. It required an interface between the stakeholders.

The very first sketch of the interface was created in the pursuance of defining the user study objectives and e.g. probes tasks (Mattelmäki 2005) in collaboration with the project partners. Since some of the project group members did not approve the researchers' approach of empathic user design (Koskinen et al 2003) in the beginning of the project, the researchers put an extra care for finding a mutual understanding. In several meetings, the researchers suggested objectives and tasks, and other project members commented and adjusted them. Researchers emphasised emotional aspects: for example one of the probes tasks was "my home" and the residents were asked to imagine their home as a person and describe its qualities. The renovators pointed out more practical issues to be studied such as how the renovation communication was mediated or how the residents have solved living during the construction period. By co-designing the probes, the researchers learned the renovation practices and elaborated the user study exercises, while the other project members started to see the value of emotional aspects and learned to trust the "joker in the pack".

In projects that involve various actors, specific occasions to share perspectives and adjust the aims are important (Buur and Soendergaard 2000). The main work in the project IKE was conducted in various face-to-face workshops. The shared interface between project participants was the residents' everyday experiences as an angle to plumbing renovation projects. All the stakeholders were able to apply the interface: it was easy to understand and concrete enough to relate with all the varying aspects such as engineer's interest in planning visualizations or constructor's communication tools during the implementation phase of renovation.

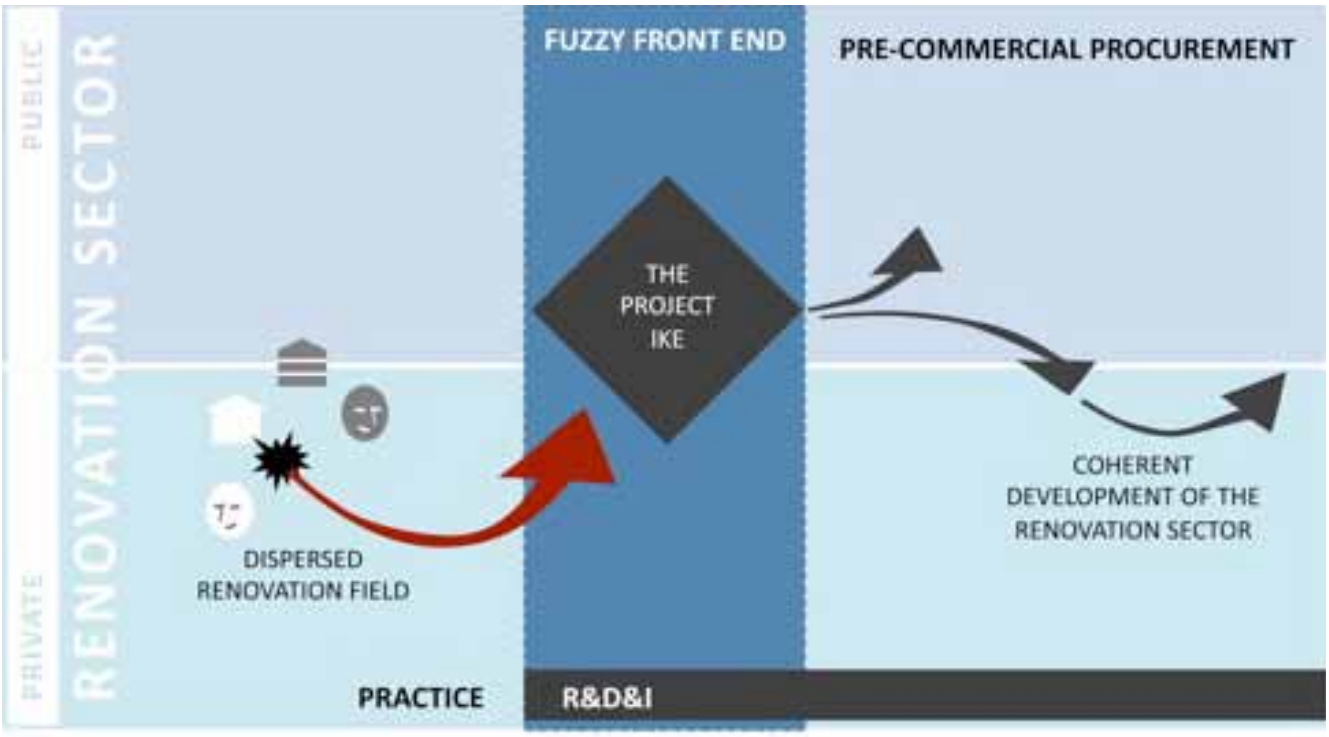
The professionals faced the residents' everyday experiences in workshops where the results of user studies were interpreted (Soini and Pirinen 2005). The three first workshops were called 'resident workshops' and they converted the residents' experiences to best practices and development needs of renovation processes. The workshops started with residents' 'Home Album' stories, which described their homes and lives from childhood to the present date (Soini 2006). The stories sensitized the professional participants to renovation experiences and opened a new perspective to renovations: projects are visits to residents' lives that have a potential to enhance their living conditions. After focusing to everyday living, a group of a resident and stakeholders such as an engineer and a constructor working at a particular renovation project, together clustered samples of renovation experiences.

A new partnership was also prototyped: the residents were equal partners with the professionals for the first time. The professionals realized that the residents might provide useful experiential knowledge and requirements for the renovations. Residents do not complain or demand for the sake of resistance but because of valid reasons. The residents felt that they had something important to say and finally they had some power within renovations. The professionals hung on residents' every word, which became to have an impact to the renovation sector. Thus, the participants 'rehearsed the future' (Halse et al 2010) of the new partnership. Following the resident workshops, the user study and workshop data was synthesized to an initial set of development themes. The fourth workshop was organized for 40 renovation stakeholders representing practice, policy-making, jurisprudence, finance, research and residents to elaborate the themes.

The third precondition for commitment is unique engagement of stakeholders in workshops (See picture 2). Workshops engaged stakeholders to reassess plumbing renovations. What made it unique was the chosen approach: residents' everyday life. The focus was not in technologies, or even service processes but on the residents' lives and personal experiences within renovations. The approach raised new insights, inspired and stimulated learning. Professionals were challenged to rethink their practices and the prevailing paradigm of the building renovation industry, and also try out new resident-oriented approach. Quite similar to Pfeffer's (1981) third condition for commitment of irrevocability, the experience of genuine engagement with residents had a powerful and irreversible influence on the project partners. It affected the whole project and provided a common ground for future efforts. It built up strong commitment and enthusiasm.

IMPLICATIONS FOR PUBLIC PROCUREMENT OF INNOVATION

According to Rolfstam (2009), public procurement from innovation perspective is a special case of user-producer interaction. Rather than price-guided market processes, public procurement of innovation is a social and collaborative process. We have illustrated in this paper that commitment builds up in



Picture 3: The project IKE was a 'fuzzy front end' phase of innovation, before pre-commercial procurement. During the project dispersed renovation sector built commitment to a shared resident-oriented goal. It also strengthened the dialogical connection between public and private sector. Public funding by the Ministry of the Environment provided a public status for the problem and promoted a user centred approach to handle it.

a network of preconditions that need to be synchronized. Commitment to a clear goal among the renovation stakeholders merge development efforts that otherwise would lead to disconnected and mismatching lines.

The picture 3 illustrates how the project IKE represents an endeavour at the 'fuzzy front end' phase of innovation, before pre-commercial procurement. The public funding enabled the practitioners to keep their industry at arm's length and to reassess it. It was a proactive project that strengthened the dialogical connection between public and private sector. The collaborative project actively mobilized significant stakeholders at the renovation sector to further enhance policies and practices with a coherent goal. Based on the results, we suggest that public procurement should be allocated also for emerging topics. These topics are raised up by the practicing pioneers and experts based on their experiences at field.

In the project IKE, a group of informed experts in the field gathered a project team to seize the imminent challenge that would affect the whole nation within next decades. Co-designing apartment building renovation and rehearsing the future of new partnerships became materialized because of public funding. There was no open tendering for R&D project suppliers but procurement followed the restricted procedure and was negotiated among project partners (Ympäristöministeriö 2004:7-8) because the project was proposed by a research coalition, and also funded by one of the project partners with a 23% share. The restricted procedure made it possible to take advantage of the extensive networks that the project initiators and partners had. The procedure valued their know-how and expertise. It also provided them freedom to channel their efforts to negotiating the best possible project in collaboration with the ministry representatives.

The project IKE was a collaborative conquest, by combining the interests of the private and public sector. It represented a public-private-partnership. Active citizens, pioneers of their fields, identified a public problem to be examined further, and once the ministry agreed with the objectives a joint venture was launched. The Ministry of the Environment constantly procured, among other projects, R&D projects that were not actively initiated by the ministry itself at the time of the project IKE (Ympäristöministeriö 2004:21). Today, the ministry's R&D budget has decreased to a 1/3 within five years. The ministry still allocates R&D budget to vital surveys that are needed in order to make specific policy-decisions. Practitioners or research units knowing the situation make practically no proposals for the ministry anymore. This opens the issue of an adequate budget for the public procurement of 'fuzzy front end' phase of innovation. Public financial support for citizens' efforts to improve public problems could create an interactive system that feeds both private and public sector. By strengthening the dialogical connection of the sectors, enhancing public problems could be a pro-active pursuit and a valuable partnership.

As the Ministry of the Environment funded the practitioner-driven endeavour of enhancing the apartment building renovation practices, the ministry supported their efforts. Thus, public funding declared the ministry's support for the public problem of apartment building renovation. It also established a particular approach to handle the public problem. The resident-oriented apartment building modernization gained a public status latest at the point when the ministry published the project report (Virtanen et al 2005). We emphasise the importance of publicity: it is also a tool for enhancing a public problem. By gaining awareness for the

subject, also other stakeholders and citizens beyond the participatory innovation project may join the endeavour.

DISCUSSION

We have presented a special case in public procurement of innovation: the project IKE represents the 'fuzzy front end' phase of innovation before pre-commercial procurement. The project combined public and private sector concerns on the inadequacy of apartment building renovation practices. It represents a special case of public procurement of emerging topics.

As the Ministry of the Environment procured participatory innovation of the public problem of apartment building renovations, it also promoted the issue. The project IKE led to empowered networks, a process innovation and a shared goal, and later on to favourable consequences. These occurred in the project IKE through building up stakeholders' commitment.

Commitment required three interconnected preconditions: technical and social pressures, interweaving stakeholders to a development network, and unique engagement of residents and professionals in workshops. These have similarities to Pfeffer's (1981) three conditions of commitment that are choice, publicity and irrevocability. Pfeffer's conditions contextualise in organisations but the project IKE deals with the inter-organisational and also public renovation sector. Pfeffer draws a picture of an individual that is persuaded to commitment. In the project IKE, the stakeholders were more self-motivated. The opinion leaders, who initiated the project IKE, were motivated to enhance the renovation sector. Already before the project, they had ideas on how to develop the sector. The project IKE acted as a tool to advance their objectives. During the project they gained consolidation and refinement to their preconceptions. As co-design workshops highlighted promising goals for the sector, their motivation strengthened. With clearer goals, they continued their endeavour. As they are also opinion leaders, they have disseminated the innovation to the renovation sector. Public procurement converted the opinion leaders to change agents.

Other project participants' commitment is in a certain degree based on other premises. One reason for the renovation sector to approve the resident-orientation could be that time was ripe for emphasizing residents. The growing interest in user-orientation at many fields and media, as well as maturing collaboration practices may have emphasized the idea of residents as equal partners. Equally, the contemporary fragmented work culture highlights the need for genuine face-to-face meetings that the workshops represented. These phenomena should be further studied to better address the feasibility of co-design for public problems.

The case IKE also raised a need for awareness of design research. Design researchers ability to provide tools for societal progress should be acknowledged before the projects are initiated. Then design research would be seen as one of the options to deal with public problems.

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