ABSTRACT

Urban development has been studied in recent years, e.g. from the social, economic, ecological, and cultural point of view. However, little investigation has been targeted on citizen engagement with the co-design methods of urban development. Co-design methods can direct and cultivate habitants’ interests and, as a result of these methods, more suitable places to live can be created. The co-design is a joint planning process between experts and users. The basic elements in co-design are: participators, purpose, methods, and aim to enable change. An important character of the engagement is the level of power that participants possess in the co-design intervention. Arnstein (1969) defined an eight-level typology to measure the degree of power that a citizen can acquire when participating in the co-design activity. With the research question "What kind of power citizens had in urban development projects when they were engaged with co-design methods?" in mind we analysed five international case studies with the Arnstein’s Ladder of Citizen participation. At first, the cases were searched and selected based on the co-design methods used to engage the citizen in urban development projects. These cases were then adequately described regarding the adopted co-design methods. The results indicate an increase in awareness and understanding of engaging citizens with the co-design process in the urban development and diverse intentions are benefited from different levels of citizens’ power in the co-design process.

Keywords: citizen engagement, co-design methods, urban development

1 INTRODUCTION

The built environment is a very stable and inflexible part of the society. In the near future, the Finnish society along with all western societies is about to face changes, which challenge the society to renew the built environment. First, the Finnish population is aging rapidly, which increases the need for assistance and care services to support the daily living of the aging population. Thus, there is a demand in the urban development to find ways to not just providing appropriate physical environments (i.e., apartments, buildings, and neighbourhoods), but also a wide range of services which answer the needs of aging population. Second, not just the elderly but also the younger generations increasingly demand new services to support and ease their everyday living as the household demographics change, urban lifestyles develop and the values of service consumption evolve. Thereby, actors in the housing business and urban development should also pay increasing attention to all demographic groups and develop their planning methods and business strategies towards a service-oriented perspective to meet the expectations of citizens.
One way to meet the needs of built environment and the society is to apply a co-design approach in the urban development in order to promote the citizens’ interests and, through that, foster citizens’ wellbeing. The core of co-design approach is to engage people. However, all the motives on using engagement are not related to citizens’ wellbeing. In order to decrease public resistance towards new buildings, public participation in built environment projects has been directed more and more towards ‘open planning process’ (Enserink and Monnikhof, 2003), which means that all relevant parties should be involved in the process. Citizens in construction and planning projects can be engaged among others through e.g. citizens’ panels, public forums, public viewing of models and environmental conferences (Arnstæin, 1969). Different co-design approaches have been used to varying extent to engage local community, citizens and stakeholders in the different stages of the urban development process. Designers are more and more interested in engaging citizens in the urban development through co-design (Sanders & Stappers, 2008). In this paper, we explore the co-design methods applied in different real life cases and concentrate especially on the engagement of citizens in these cases. The paper is structured so that the introduction is followed by literature review and methodology; thereafter, we present discussion and conclusion.

2 ENGAGEMENT IN CO-DESIGN PROCESS

Co-design is a joint planning process in cooperation between different experts and users. In a co-design process, everyday people are participants and co-creators, rather than customers and users (Sanders, 2006) and they contribute as the experts of their experiences (Visser et al. 2005). The co-design approach allows the co-operation at several different levels of the design processes for instance by bringing knowledge into practice, or encounters the user as a source of information and inspiration (Mattelmäki and Vaajakallio, 2011). On the other hand, the designer offers creative meanings, tools for the experience, ideas, and information sharing. A co-design process can be understood as an attempt to help users, researcher, designers and people with diverse backgrounds and skills to cooperate creatively and to jointly explore and envision ideas, make and discuss sketches and explore with mock-up future ideas (Steen, 2011). We understand the co-design approach as a dialogic process that engages individuals and creates practical solutions, new understanding, relationships, and engagement between various participants (Ledema et al., 2010). The principle is to enable the participant to be heard and influence through different methods.

The engagement of participants in the co-design process of urban developing projects can be achieved in many ways throughout adopting different co-design methods. The co-design methods used in urban development are similar to other participatory design projects. Nonetheless, few urban development projects utilizing co-design exist. In this section, we are highlighting some of the methods used. The researchers arranged workshops (Lawson, 2005) in order to engage as wide as possible ranges of people with various technical skills and different participation abilities. These workshops were combined with various techniques of making such as paper and pen prototyping, cardboard prototyping, and discussions. Saad-Sulonen et al. (2012) who, in order to develop common language and understanding between active citizens, city planners and the development industry in designing the platform for traffic planning in Helsinki employed workshops, paper prototyping and testing of technical prototypes with participants.
In order to discuss the differences in engaging the citizen in co-design projects, we describe four different dimensions of co-design projects. The purpose of the project sets an intention for all activities in the project. The second is the purpose of the engagement, which might not be the same as the purpose of the project. Sangiorgi (2010) discusses the engagement as an aim or means to a project. Democratic values are one reason for organizing the engagement. Community action research fosters learning communities through collaboration, thus the main idea is to create a community of individuals over organizations (Sangiorgi, 2010). The third is participants, which refers to people who are involved in the project. Often, a researcher or a developer organizes the process of the engagement and gathers the participating people. The organizing person can be an employee of a company or a public institution. The organizers influence the participation of individuals. People can act differently when a company or volunteers organize the project. The organizers position themselves in a specific way towards participants. To enhance the engagement, researchers can act more as facilitators than transformers (Sanders and Stappers, 2008). An individual who is participating in an engagement needs to allocate his or her resources for outcomes (Halbesleben et al., 2009). In citizen participation projects, this means that citizens use their own spare time. This affects the possibilities for engaging. Engagement requires not only time, but also affective interest on subject (Christian et al., 2011). The fourth is the level of engagement, i.e. how much power individuals hold in the project. Arnstein (1969) introduced this idea when he described citizen participation as citizen power. Already at that time, Arnstein (1969) had noticed citizen engagement as a generally used concept of discussion of minorities, but criticized whether the actual projects had given any power to these engaged individuals. He created a typology of different states of power that engaged individuals have in a project. This typology enables analysing not the discourse of engaging citizens, but the actual power or influence that engaged individuals possess in the project. Arnstein’s typology is based on the idea how much power engaged individuals can have on the end result of the project. In this typology, manipulation and therapy describe the lowest level of real engagement. Here, citizens do not have any real power and are seen as educated or cured. The levels of third to five are described as tokenism; these are informing, consultation, and placation. Here, the engaged citizens are being heard and they can express themselves. From sixth to eighth level, citizens have an influence on the decision-making. These different levels are called partnership, delegated power, and citizen control. On the last level, the engaged citizen has the majority on decision-making. (Arnstein, 1969.) This paper is based on the authors’ interest in Arnstein’s 1969 article.

3 METHODOLOGY

With the research question in mind "What kind of power citizens had in urban development projects when they were engaged with co-design methods?" we performed categorization and cross-examination according to the Arnstein’s Ladder of Citizen participation. The five co-design cases where citizens were engaged in urban development projects to analyse the level and quality of the engagement had been selected. The case studies present different ways of engaging the citizen in urban development. The case selection was done based on the international examples applying the co-design methods. Cases were collected with the help of researchers’ earlier knowledge. Furthermore, the most
appropriate data were available based on earlier benchmark-studies, and cases were also interlinked and referring to each other. All cases were involving people, residences, citizens, and stakeholders to some extent. Selected cases were performed between 1976 and 2014 in four different countries in Europe and America. The case time span is over four decades, as urban planning processes usually take long time to conclude. At the same time, it clearly presents the progress of citizen participation in urban planning. In the analysis, we concentrated on the co-design methods used and the nature of the engagement. Additionally, we were interested in the historical perspectives and the progressiveness of the case.

The main features and co-design methods of cases are shown in Tables 1 to 5 below. The tables are constructed based on the background and empirical data, co-design methods used and the nature of the engagement. Established parameters unified all 5 cases in order to make them comparable. Cases were analysed within a framework based on Arnstein’s Ladder of Citizen participation (1969). On the lower rungs of Arnstein’s Ladder is nonparticipation, which consists of manipulation and therapy. The next levels are the degrees of tokenism, placation of the public and then, the more positive activities of informing and consultation. On the higher rungs, the actual degrees of the citizen power are divided into partnership and delegated power and finally citizen control (see Fig. 1). The examination was done with help of studying the dimensions of the engagement in the co-design: the purpose of the project, the purpose of the engagement, and the participators in the project.

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<tr>
<td><strong>BACKGROUND</strong></td>
<td>The initial motivations come from the City of Boston to compensate the destroyed land of neighbourhoods by land clearances in preparation for proposed highway construction. The City and local transportation authority created a policy of maximum feasible citizen participation on the federal programs.</td>
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<tr>
<td><strong>EMPIRICAL DATA</strong></td>
<td>10% of Boston’s citizens, consultants from 23 design and engineering firms.</td>
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<td><strong>APPLIED CO-DESIGN METHODS</strong></td>
<td>Regular and well-structured neighbourhood and corridor-wide meetings were held in ten years’ time. Meetings run by trained coordinators and planners. Participants were the designer, engineers, the City, local transport staff, and residents. The visual bimonthly project newsletter was used to communicate the progress and results of the meetings. Meetings varied in size and scope from 10 to 200 participants. Duration of the monthly lively meetings was two hours with 20 to 30 people. Citizen meetings were popular: even designers were attending these meetings for several years.</td>
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<td><strong>THE NATURE OF ENGAGEMENT</strong></td>
<td>The Boston case began as a high way project, ended up as a community design project.</td>
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<th>ZURICH 2012</th>
<th>MINDER ET AL. (2013)</th>
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<td><strong>BACKGROUND</strong></td>
<td>The housing cooperatives have a strong tradition of participation and self-administration, however their organizational structures and processes are often defined and regulated very weakly. There is lack of common understanding and the basis of participation and self-</td>
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<th>EMPIRICAL DATA</th>
<th>administration. As a consequence, the tacit expectations cannot be fulfilled and this lead to uncertainties and conflicts.</th>
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<tr>
<td>APPLIED CO-DESIGN METHODS</td>
<td>Two different housing cooperatives in Zurich.</td>
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<td>Guided interview with the officials from the housing cooperative. Vote: typology of residents regarding participation. World café: discussion at the plenary meeting. Focus group: group discussion and validation of the results from step 1 and 2. The process and results were documented orally (audio files), visually (photos) and in written form (protocol, flipcharts, post-its), self-assessment and self-declaration.</td>
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<td>THE NATURE OF ENGAGEMENT</td>
<td>In the participants’ vote preparation, the category “activist” was introduced as a person who actively presents opinions and inputs for change. Based on self-assessment and self-declaration, a majority of participants would call them-selves “activists”.</td>
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<tr>
<td>BACKGROUND</td>
<td>The project goal of Neighbourhood Labs was to encourage and improve the process of public development and providing the opportunities for the citizens to elaborate. An environment that enables participants to collaboratively improve the social fabric through knowledge sharing and collective action is to be created.</td>
</tr>
<tr>
<td>EMPIRICAL DATA</td>
<td>A pool of researchers, designers and non-expert-inhabitants of the Fisher Island neighbourhood.</td>
</tr>
<tr>
<td>APPLIED CO-DESIGN METHODS</td>
<td>Different collective activities such as workshops, accessible and open community blog and interfaces’ digital platform paper-prototyping for the participants to experiment on their own time were adopted. The combination of a traditional ways of communicating with a digital technology and voting were applied. The approach was the participatory and experimental hands-on design of socio-material infrastructure.</td>
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<td>THE NATURE OF ENGAGEMENT</td>
<td>A citizen’s sense of powerlessness towards the city, e.g. after failed attempts to stop the broadening of an already noisy and polluting multi-lane roadway adjacent to the area. Researchers and the designers had a double role. The roles moved back and forth between the observer and the participant, the describer and the creator. Actually, they wanted to be seen as semi-natives instead of “intruding strangers”.</td>
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<tr>
<td>BACKGROUND FOR HELSINKI 1 &amp; 2</td>
<td>The starting point of the project was the renovation requirement in Finnish neighbourhoods built in 1960 and 1970. These renovations need to be seen as an opportunity for providing better life, not as an indispensable technical renovation operation. The focus was on connecting sustainability and societal issues to building renovation as well as the shift from production-oriented renovation towards resident-oriented renovation and modernisation.</td>
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<tr>
<td>HELSINKI 1 &amp; 2 2012</td>
<td>HEIKKINEN ET AL. (2012)</td>
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HELSINKI 1

EMPIRICAL DATA
The design researcher, engineers, experts, residents, approximately 400 local people, entrepreneurs, active citizens, the city of Helsinki employees, politicians, experts, service providers, companies attended all different activities created by students, researchers and the local people.

APPLIED CO-DESIGN METHODS
Dismount to the area and participative process are two major activities in the Helsinki case. The students and researchers genuine presence in the area has proved to be the “access” to the area.

THE NATURE OF ENGAGEMENT
Expert interviews clarified concrete maintenance practises and events and the general spirit of the housing condominiums. The most significant development aspects of resident-oriented renovation and modernisation in residential properties identified in the study were: strategic goal-setting and life-cycle management of housing condominiums, the building condition index, a customer-oriented concept of a service and cooperation process, predictive and interactive communication, construction methods for industrial repair, tailored financing solutions and a customer-oriented procedure for renovation construction providers.

HELSINKI 2 2012-2014

EMPIRICAL DATA
The partnership of nine different organizations. Industry was represented by three companies, which provide housing renovations on the building scale, design and implement wellbeing and living environments and an electricity energy provider. Structure for each session was presentation and discussion.

APPLIED CO-DESIGN METHODS
The aim was to develop the methods of collaborative working practises that are connected to the “brand” of suburb. Designers adopted a map of a broad network with timeline in the longer time perspective, a cartoon strip, a bundle of various practises, which were visual and illustrative, and kaleidoscope workshops, in which you were able to alter the viewpoint.

THE NATURE OF ENGAGEMENT
Residents were a key resource in a suburb of the reform. The aim was to find new ways to engage inhabitants to an upgrading process of their home region. The user-centred design methods were exploited and invested in a transparent and understandable communication. The outcome was an experienced meaning of a property as homebuilding towards the on-going or finished renovation.

Tables 1 to 5 – Present selected urban development co-designed projects.

4 DISCUSSION

The results demonstrate the increased tendency of awareness and understanding of engaging citizens with the co-design process in the urban areas development. Diverse intentions benefit from different levels of citizens’ power in the engagement in the co-design process. The results support the
hypothesis that through co-design methods, we can grasp difficult issues that cannot be discussed otherwise.

Various co-design methods were adopted in certain stages of the design process in order to achieve required results at each stage. Most often the researchers adopted workshops (Heikkinen, et al., 2012, Unteidig et al. 2013) in order to engage as wide as possible ranges of people with various technical skills and different participation abilities combined with various techniques of making for example paper and pen prototyping and cardboard prototyping, as well as discussing, e.g. the world café as in the Minder et al. (2013) case. Heikkinen, et al., (2012) established "a basecamp" to get the access to the local residents and partners in the development area via "viewpoint workshops" where they envisioned the participants’ role in the development momentum of the future suburb. This “basecamp” had a profound impact on the local environment through establishing partnerships with residents’ coordination team. In the later stages of the design process, design researchers organised network events supported with different social media to inform local people in the project’s progress. Democratic element of participatory design was reached by voting (Minder et al., 2013).

These cases present different ways of engaging the citizen in urban planning. In most of the cases, raising the level of engagement in a community and exploiting the expectations and ideas of the citizen in further development processes were highlighted. As we pointed out, the citizen engagement with the co-design methods of urban development has not been investigated much, however it is clear that 5 cases cannot provide definite evidence of all aspects, but these case studies illustrate that citizens have power and it has an impact on urban development (see Fig. 1).

Fig. 1: Cases placed in Arnstein’s Ladder of Citizen Participation (1969) based on the level of citizen engagement.
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We placed the Boston case on the therapy level because damage was already done, as the land was already destroyed when the participatory process started. It has been noticed that no trust was established between different parties alongside the entire participatory design process. As a result of interviews, interviewees addressed some doubts towards participation, whether arising from bias or from technical issues such as increased workload, traffic safety, or conflicting professional obligations. This can be demonstrated by, firstly, when closely questioned, it emerged that all interviewees believed that conventional architectural review systems made the limited allowance for the citizens’ work. Secondly, all stressed the importance of some kind of public recognition for their work, whether through the customary architectural award system or through local public recognition. And finally, one relevant topic was the manner in which design professionals were viewing the quality of design work completed with citizen input.

The Zurich case was positioned on the placation level as two housing cooperatives were analysing and developing the culture of participation and they were recognising the need for improving participation situation, their roles and unclear commitment inside housing cooperatives. Their organisational structures and processes were defined and regulated very weakly. A common understanding and the groundwork of participation and self-administration were missing in both cases of the two housing cooperatives. As a consequence, scattered and tacit expectations cannot be fulfilled and lead to uncertainties and conflicts. Minder et al., (2013) recognised that in the future housing cooperatives are facing different challenges, such as new market segments, social change in the general and strategic questions of housing development, which not only exacerbate the problem of participation and self-administration but also require basic negotiations between residents and management of rights and duties. The scholars pointed out that the combined matrix (Wilber/Nonaka et al.) allows deriving specific measures helping to improve participatory structures and processes, to develop and foster a participatory culture.

We believe that the Berlin case belongs to the delegated power level as they started co-working with an already established well-functioning urban community and they were using different approaches (offline and on-line) in order to reach for a wide range of possible participants. During the project, the design researchers were taking numerous roles depending on the stage of the project, the project objectives, and participant behaviour. This confused the participants, which lead to the fact that they were not eager to deliver the expected solution; instead, they expected these tangible results from researchers.

The Helsinki case was divided into two projects, however we believe that both cases belong to the partnership level, because Heikkinen et al., (2012), started with the "basecamp" idea and, at the same time, they were levelling the level of citizen engagement in the development process. The work during the project combined the everyday life (short-term) and professional (long-term) practises in the neighbourhood renovation. The purpose of the project was to enhance the diverse collaboration, early phase activity, the citizen engagement and energy efficiency as well as the activation of the citizen. They also had the most advanced, varied methods as for example, they had kaleidoscope workshops in which they were able to alter the viewpoint, then cartoon strips to combine both visual and illustrated material and a timeline for the time perspective as well as a map for having an overview with one glance.
5 **CONCLUSION**

Our possibility to answer the research question was limited because the three of cases (Boston, Berlin and Helsinki) were not completed. However, the results demonstrate the increased tendency of the awareness and understanding of engaging citizens in the co-design process in the urban development. Then, diverse intentions benefit from different levels of citizens’ power in co-design. Finally, we have to admit that the number of the cases obtained cases was small, meaning that the available information was limited.

6 **REFERENCES**


THE VALUE OF DESIGN RESEARCH

11TH EUROPEAN ACADEMY OF DESIGN CONFERENCE
APRIL 22-24 2015
PARIS DESCARTES UNIVERSITY INSTITUTE OF PSYCHOLOGY
BOULOGNE BILLANCOURT FRANCE

CONFERENCE ORGANIZERS:
PARIS DESCARTES UNIVERSITY
PARIS SORBONNE UNIVERSITY
PARIS COLLEGE OF ART ISTEC PARIS

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