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Attitudes towards a User-Centred City Development Concept

Case: Keskustori – Public Market Area of the City of Seinäjoki

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Thesis abstract

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This particular study researches how effective the working committee of a city environmental development process considers user-centred design methods. The aim of the study was to find out what kinds of attitudes and experiences the working committee has in relation to user-centred methods and processes. The working committee consisted of the public officers, architects, and other city developers. This study uses two theoretical approaches to solve the research questions, the ABC Model of Attitudes (Askekaard et al. 2006, 285-288) and Horelli's and Staffans' (2014) model for an expanded urban planning approach, based on the Smart Cities concept.

The case study is based on a user-centred design concept applied to develop an action plan for Keskustori, Seinäjoki (Finland). The area to be developed is a public market area in the City of Seinäjoki. The main purpose of the user-centred design process was to gather suggestions for development from different categories of users of the area, such as citizens, entrepreneurs and landowners. The study presents the participatory design methods used in the case study to gather user-centred suggestions for development. User involvement in the city design process is based on the development strategy of the City of Seinäjoki. The basic principle of the user-centred design concept is to interact with the users and to use different communication methods, to involve citizens, and to make sure that the processes are equal and open to everyone.

The empirical part of the study was implemented by interviewing the working committee of the design process. The analysis of the data was conducted by combining the results under each theme. This study is useful especially for project managers and developers planning to start a development process. The study suggests matters that need to be taken into consideration when planning and implementing new city environmental design processes with a user-centred design approach. This study shows that, when starting a design project, it is important to go through the terminology of user involvement, the common aims, and the methods used.

Keywords: user-centred design, city development, participatory design, user involvement, attitudes, ABC model

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Tässä tutkimuksessa on tutkittu, kuinka tehokkaita suunnittelutyöryhmän mielestä ovat käyttäjälähtöiset suunnittelumetodit kaupunkisuunnittelussa. Tutkimuksen avulla selvitettiin, millaisia asenteita ja kokemuksia suunnittelutyöryhmällä on käyttäjälähtöisiin metodeihin ja prosesseihin liittyen. Suunnittelutyöryhmä koostui virkamiehistä, arkkitehdeistä ja muista kaupunkikehittäjistä. Tutkimuksessa on käytetty kahta teoriapohjaa, asenteiden ABC-mallia (Askekaard et al. 2006, 285–288) ja Horellin ja Staffansin (2014) mallia laajemmasta kaupunkikehityksen viitekehyksestä, jonka avulla Smart Cities -konseptia voi ymmärtää ja muokata.

Tutkimuksessa on käytetty tapaustutkimuksen mallina Seinäjoen Keskustorin toiminnallisen suunnittelun käyttäjälähtöistä kaupunkisuunnittelukonseptia. Keskustori on Seinäjoen ydinkeskustassa sijaitseva julkinen torialue. Käyttäjälähtöisen suunnitteluprosessin ideana oli kerätä aluetta käyttävien kohderyhmien (asukkaat, yrittäjät ja maanomistajat) mielipiteitä alueen kehitykseen. Tutkimuksessa esitellään, millaisia käyttäjälähtöisiä suunnittelumetodeja on käytetty Keskustorin uudistuksessa. Osallistava kaupunkisuunnittelu pohjautuu Seinäjoen kaupunkistrategiaan. Käyttäjälähtöisessä suunnittelussa on tärkeintä kuunnella käyttäjäkokemuksia ja mahdollistaa suunnitteluprosessiin osallistumisen erilaisia vaikuttamisen kanavia käyttäen. Osallistamisen lähtökohtana on, että se on kaikille avointa ja saavutettavaa.

Tutkimuksen empiirinen osa toteutettiin haastattelemalla suunnittelutyöryhmän jäseniä. Analyysiosuudet toteutettiin yhdistelemällä vastaukset erilaisten teemojen alle. Tutkimus on eritoten hyödyllinen niille, jotka suunnittelevat aloittavansa käyttäjälähtöisen kaupunkisuunnittelukonseptin. Tutkimustuloksiin on kerätty listaus, jossa on käytännön vinkkejä käyttäjälähtöisen suunnitteluprojektin ideointi- ja toteutusvaiheisiin. Tutkimus osoittaa, että eri toimialat tarkastelevat osallistamista eri metodien kautta, ja tästä syystä on tärkeää suunnitteluprojektien alkuvaiheessa käydä läpi osallistamisen terminologia, tavoitteet ja käytettävät metodit.

Asiasanat: käyttäjälähtöinen suunnittelu, kaupunkisuunnittelu, osallistavat menetelmät, käyttäjäkokemus, asenteet, ABC–malli

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Terms and Abbreviations

Attitude	Attitudes are person's overall evaluation of a concept, and an attitude can consist of more than one function, even though in many cases only one is dominant. Attitude has played a key concept in psychology for more than a century and can vary with cultural context.
CBO	Community-based organisations.
GIS	A geographic information system (GIS) is the main part of the modern landscape design process. With GIS-based programs, the information is more accurate and easily visualised in 2D or 3D models.
GPS	Global Positioning System technologies helps to navigate physically, socially and digitally around the environment.
HCD	Human-centred design consists of user research, user–centred design and participatory design.
PD	Participatory design is design with actual users (different focus groups).
PPGIS	Public participation addresses the more participatory and bottom-up aspects of GIS. The PPGIS system uses GIS to broaden public involvement in policymaking as well as to create value of GIS.
Public Design	Public design stands for design of public spaces and the functional elements in those spaces.
Public Space	Public space is defined as a space which is open spatially and socially.
SoftGIS	SoftGIS methods are internet-based surveys which are used for planning and researching living environment.

Smart City Concept	The Smart City concept is a trendy concept that has been promoted by universities, global ICT companies (etc. IBM and CISCO), cities, as well as the European Union.
UCD	User-centred design is design for potential users (respondents).

Tables, Figures and Pictures

1 INTRODUCTION

City centre development is one of the main aims of the Seinäjoki City Development Strategy. The strategy points out that the city centre is going to be reshaped and the aim is to build a comfortable and functional city centre which is designed by participatory methods.

The user-centred design concept for city planning was designed by City of Seinäjoki and the Into Seinäjoki Ltd., which is a city-owned development company. The aim of this user-centred design concept was to develop an action plan to this market square called Keskustori. This process was developed by *a user-centred design process for city development* (See Figures 9 and 10) which main purpose was to gather development ideas from different kind of users of the area such as citizens, entrepreneurs and landowners.

The renovation process started in the autumn of 2014 when the City Council approved the new city plan for the Keskustori area. This new city plan consists of three important elements: 1. possibility of building higher buildings, 2. building an underground parking system and 3. renovation of the street areas. The aim of this design process was to bring citizen insights more closely to city planning process and to find out the best ways to execute processes. This thesis investigates the renovation process of the Keskustori street area.

It is stated by the law that citizen participation has to be involved to city planning processes (L 5.2.1999/132). Public officers are obligated to fulfil the requirements. The aim of this study is to research how effective and what kind of attitudes the public officers and the architects (designers) have towards user-centred design methods. The present study uses the ABC Model of attitudes (Askegaard et al. 2016, 285–288), which consists of three components: affect, behaviour and cognition. The empirical part of the study is done by interviewing the public officers and architects who have been part of the design process.

This thesis consists of four main parts. The first part introduces the main ideas of user involvement in design and attitudes. User-centred design is an important way to get new ideas from citizens and user groups to city planning processes. At this

part, it is explained what kind of approaches are used in this design process, what users' role is, and what kind of phenomenon user-centred design is. This part of the theory explains the main ideas of the attitudes and the concept of a hierarchy of effects which is developed to explain the relative impacts of the attitudes.

The second part of the theory consists of a case study of Keskustori. The main idea of a user-centred design concept is to develop an action plan to the public market area. This chapter is divided into five different categories, which open up and explain more deeply the methods that are used in the design process. Through the theory, it is explained what kind of survey and workshop methods where used in the development process. It is important to understand the respondent roles and what kinds of political decision methods are on the background of the process.

The third chapter of the study explains why qualitative research methods are used in this study and what interviewing methods are used. In the final fourth part, the results of the interviews are analysed and evaluated through the theoretical part.

The field of user-centred design has several different constructs and meanings for terms. The main key words for this study are: user-centred design, city development, participatory design and attitude. Almost each chapter includes specific terms. These terms are clarified more specifically in the chapters.

The main results of the study are presented to the working committee and used for other purposes. At the end of year 2017, the interaction designer of the City of Seinäjoki is going to start preparing instructions on user involvement methods of the City of Seinäjoki. The instructions of user involvement cover service and city development issues. The results of this study are used for the background information.

A conceptual framework (Figure 1) guides the entire study report and helps information gathering and result analysing. The conceptual framework is done after the research problems are clarified. The main idea of the conceptual framework is that it combines the empirical and theoretical part as a whole (Heikkilä 1998, 25–26).

At this particular study, the conceptual framework is done based on the research problems of this user-centred city development process. *The aim of the study is to find out how effective user-centred design concept is in the city development process in the eyes of the public officers and architects of the working committee.* This study uses Horelli's and Staffans' (2014) model of the expanded urban planning approach (see Figure 6) to find out answers to this research question. This model is based on communicative and post-structural planning theories. Through this model three levels of expanded urban planning are investigated:

1. Horizontal expansion – co-operation between different interest groups and local community
2. Vertical expansion – continuous learning process and best practises
3. Multiple participation – communication improvements

Another important research question is: *What kind of attitudes and experiences the public officers have towards user-centred design methods and processes?* This study uses the ABC Model of Attitudes to clarify this research question (Askegaard et al. 2016, 285–288). The three components of the ABC Model of Attitude are:

4. Affect – *feelings*, what kind of feeling the public officers and architects have towards user-centred design methods?
5. Behaviour – *action point* (do), what kind of actions the public officers and architects have done and are going to do towards user-centred design processes and methods?
6. Cognition – *beliefs*, what kind of beliefs public officers and architects have about user-centred design processes and methods?

The main idea of this concept is to develop the public market area, Keskustori, in such way that opinions to the development ideas are asked from the citizens, business owners and landowners.

At this conceptual framework, the different kind of participatory methods are explained. This study uses: 1. user-centred design methods, 2. participatory design methods and 3. survey of the best option. All of these results were analysed and

used as the basis of the design. The architects who designed the layouts also participated in the workshops.

The working committee has been operating in the background all the time. The Specialist of User-Centred City Development from Into Seinäjoki Ltd presented all the findings of user-centred design methods to the working committee and arranged all the meetings. This working committee presented the final layouts and results to the Official Developing Committee of the City Centre which is an official committee signed by the Mayor of Seinäjoki and the City Board. This committee consist of politicians and officers of the city. After this part of the political decision-making process, the committee presented this layout the City Board which presented those to the City Council.

The development process is based on the Seinäjoki City Development Strategy which is a politically approved development process. This is important issue because it means that everybody has a common agreement towards this kind of development process in which the city centre is developed. Therefore, this City Development Strategy is briefly presented in this study.

The qualitative research part is done by interviewing the working committee, which is the key group of this development process. The working committee of the public officers consists of the following institutions and participants:

- Into Seinäjoki Ltd (the development company of the City Seinäjoki): Manager of the Working Environment and Specialist of User-Centred City Development
- City of Seinäjoki: Chief of the Technical Department, Chief of Land-use Planning and Urban Design Department, Chief of Facility Services, Chief of Cultural Services, Chief of Parks and Green Areas, Chief of Streets and Traffic, Chief of Development Services
- Seipark Ltd (parking services of the city): CEO
- Laatio Architects Ltd.: architects

These are the key operators in the area. Seipark Ltd. builds the underground parking system under the market square, City of Seinäjoki owns the land and builds up

the space, the architects design the space layouts and Into Seinäjoki Ltd is going to be the operator of the market area in the future.

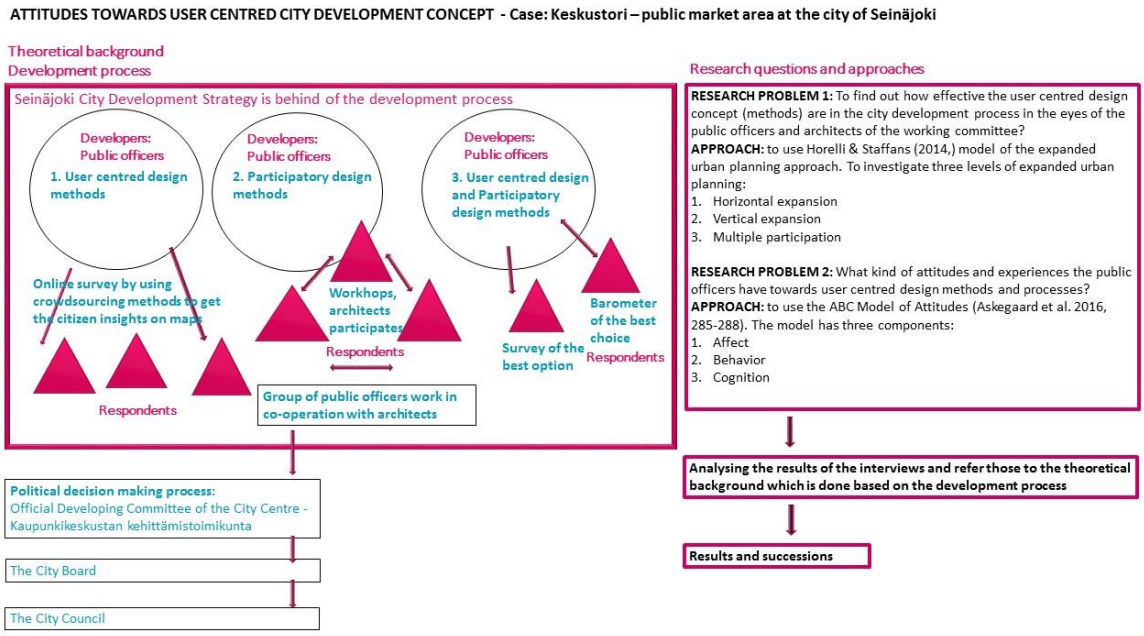


Figure 1. Conceptual Framework.

2 USER INVOLVEMENT IN DESIGN AND ATTITUDES

This thesis investigates user involvement in city planning process. The main motivation to this work is to help public officers to overcome the challenges of user involvement and get new ideas for accomplishing user-centred design processes in city planning. Friedrich (2003, 1–2) defines that *User-centred design* (UCD) is an established approach to user involvement throughout the iterative information system design process. Friedrich researched *Web-based co-design-Social media tools* to enhance user-centred design and innovation processes at Aalto University. Friedrich's research is one of the main sources which will be used as a research background in this thesis. Friedrich studies how social media tools can be used to support user participation in the design and innovation processes and how social media affects the elements of user participation.

At Friedrich's research, the respondent roles are combined to user-centred design, participatory design and user-driven innovations (See Figure 2). Figure 2 explains what different roles the respondents have in the relation to the company. At user-centred design the company pushes the information through respondents by using surveys where questions are well prepared and handed to respondents. This basically means that respondents cannot influence to the content of survey questions. The only influence is done by answering the survey and giving opinions.

On the other hand, in the participatory design the respondents have a major role in design process with company representatives. At workshops, the communication is done face to face and opinions and ideas are forwarded easily between participants.

In the user-driven innovation approach, the process is entrusted to users, who discuss, analyse and make suggestions and improvements of the concept or product (Friedrich 2003, 1–2). The users make new ideas as a community and they share their ideas by crowdsourcing. In this approach, the ideas are given to the company by respondents.

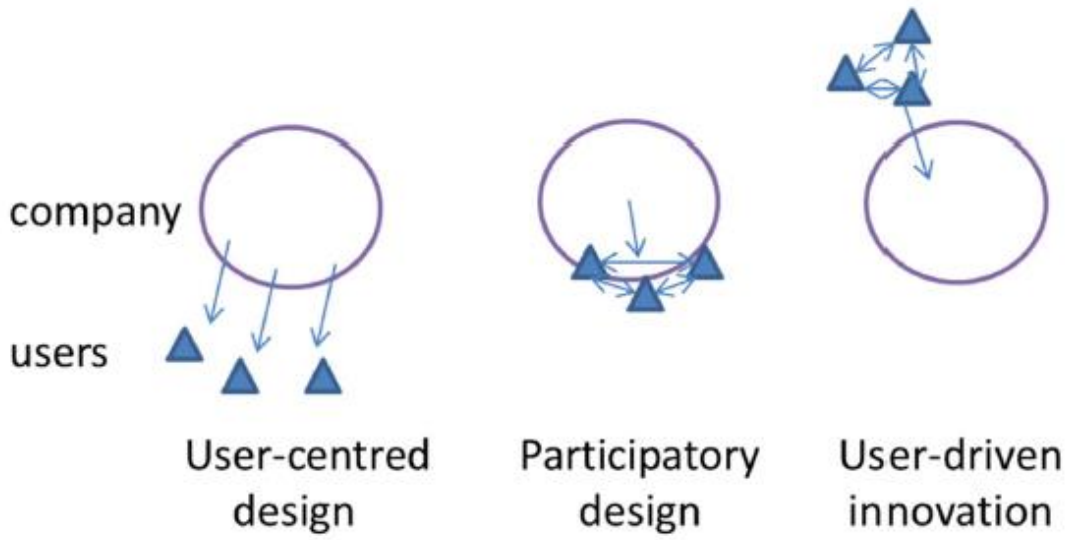


Figure 2. The different approaches to user role in design (Friedrich 2013, 23).

In this development process, user-centred design and participatory design methods are used to clarify the different approaches which are used in user-centred design concept in the Case of Keskustori design process. It is meaningful to go through the different approaches of respondent roles in this study because it is beneficial to use variety of approaches to reach as many people as possible and to get opinions from the representatives of different interest groups which have special valid to design process.

The present study uses two approaches of user involvement, and these are the basic foundation in this study:

- *User-centred design* (UCD) which is design for potential users (respondents)
- *Participatory design* (PD) which is design with actual users (different focus groups)

Figure 3 visualises the different approaches of the respondent roles which are used in the case of the Keskustori user-centred design process. In the first part, user-centred design methods are used to reach the respondents. This is done by an online survey to get the citizen insights for maps. The survey is done by a questionnaire program which uses the SoftGIS methodology.

The second part of user-centred design process is done with workshops, which means that respondents have major role in participation. The material of the first part survey was used for designing the second part and was given to the participants as a background material. The workshops had three different kinds of focus groups: 1. real estate owners, shopkeepers and restaurants owners or representatives, 2. citizens, seniors and families and 3. representatives of the cultural field, event organisers, young people and students.

The third part consisted of two different kinds of methods: survey and barometer. This part differs from the Friedrichs' (2003, 2) part where user driven innovation was used. Survey method and barometer were used again at the concept. The survey is seen as a "push method" in one way, from the design group to the respondents. Citizens' opinions about the best choice for the layouts were asked with this survey. A barometer model was arranged and held in the Epstori Shopping Centre, Seinäjoki. All the four layouts were on the wall there and citizens could discuss of this layouts and vote for the best choice. Therefore, this method is interactive in both ways, and it is a participatory method. The specialist gave all the information they could and citizens asked questions. Together, this formed a participation process. This is not the same as workshops, because with this method respondents do not go into the details or make any kind of report. Only the vote speaks as the voice of the respondents.

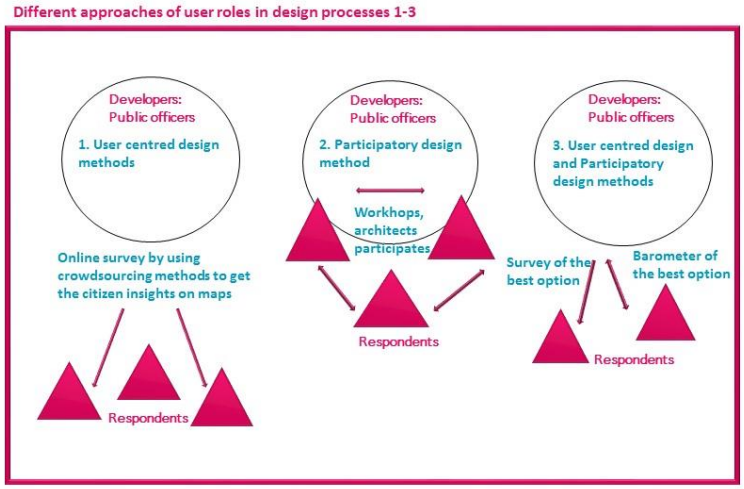


Figure 3. Different approaches of user roles in design process 1–3.

According to Friedrich (2013, 23–24), *Human-Centred Design* (HCD) consists of user research, user-centred design and participatory design. These terms differ from business research which uses partly different terms such as user-driven innovation, customer involvement, living labs and co-development. The relationships of these different terms/concepts are illustrated in Figure 4, made by Sanders and Stappers (2008, 6). In this Figure 4, it can be seen that User-Centered Design is clarified to under expert mindset, which means that users are seen as subjects and reactive informers (Friedrich 2013, 23–24). On the right-hand side is Participatory Mindset, which clarifies users as partners and active co-creators.

According to Sander et al. (2008, 5) user-centred design approach (i.e., “user as subject”) has been primarily an US-driven phenomenon. This design approach developed in 1970s when people were taken more into design processes and given more influence. In addition, their roles proved that they can be provide expertise and participate in the informing, ideating and conceptualising activities in the early phases of design processes. On the other hand, the participatory method (i.e. “user as partner”) has been a Northern European phenomenon, and these two approaches, according to Sanders, are now beginning to influence one another (See Figure 4).

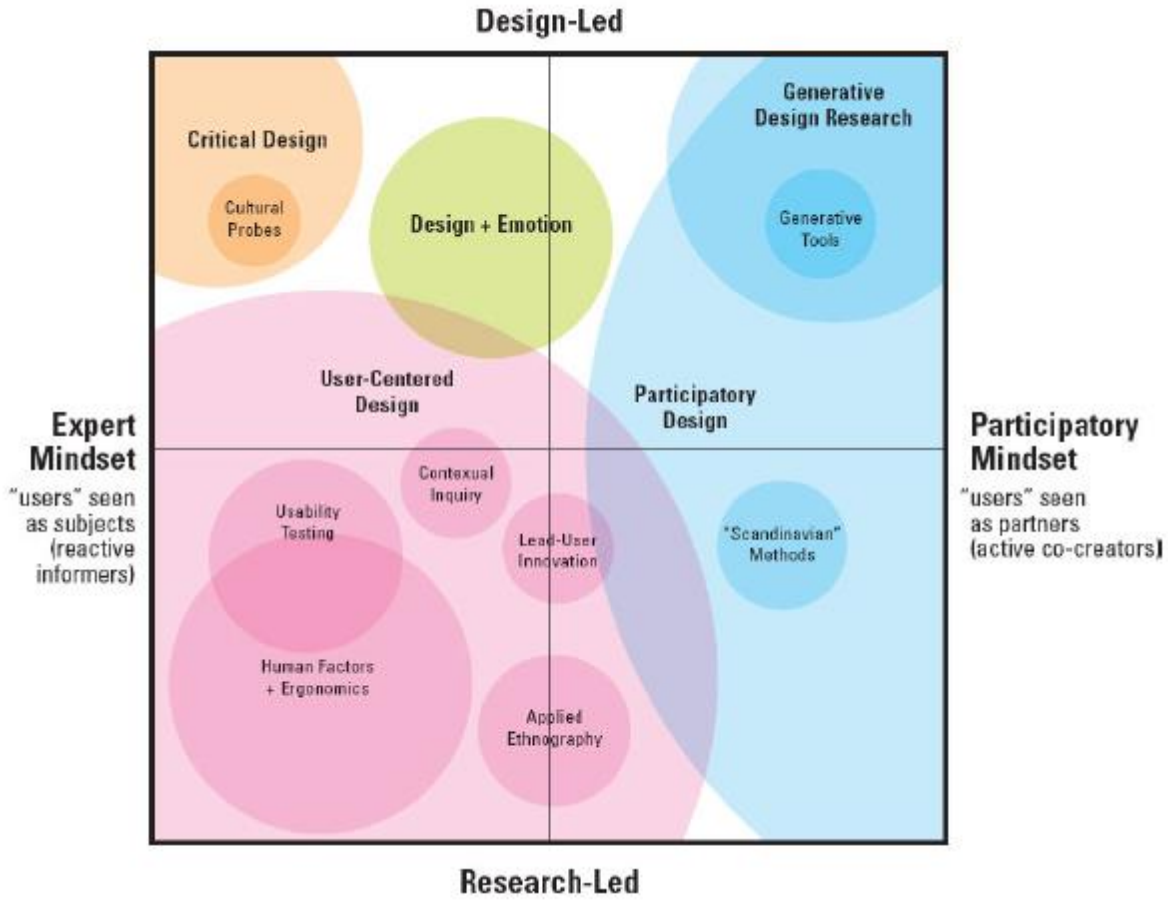


Figure 4. The current landscape of human-centered design research as practise in the design and development of products and services (Sanders et al. 2008, 6).

Friedrich (2013, 26–27) states that some user-centred design methods require user participation, whereas other methods can be used by researchers without direct interaction with users. Figure 5 summarises the methods by which users are involved in at least in informative role. In Figure 5 the design phases are categorised to four phases: 1. exploration, user and context research, 2. ideation phase, 3. concept design and evaluation, and 4. software development and testing. Friedrich uses in the table the ideology of the product testing which differs from the environmental planning as a subject but on the other hand the ideology of user-centred design stays the same. Development and testing are part of the environmental planning processes.

In Figure 5 the methods are divided under the four different design phases. Each phase consists of several different methods which can be used. The user role in

these methods is either responsive or productive or it can be both, depending of the methods and designing situations.

With a pink colour is highlighted (Figure 5) the design phases, methods and user roles which are used in the case of the Keskustori user-centred design process. At the exploration, user and context research phase was used survey which was done with an interactive map-based survey tool Harava. At this survey, the user role was responsive. The results of the survey were used as background information in the ideation phase which consisted of three workshops. At these workshops, the user roles were productive.

The concept design was done differently than in this Friedrich model (Figure 5). At this model, the concepts were created by the architects of the Laatio Architects Ltd with cooperation with the working committee. At this part was not used anymore users in an active role but the information from the users was used as a background material.

The testing phase was organised in two ways in this concept. The Internet survey method was used again, and a barometer voting was organised in a public space, and it was open for everyone for one day. Those who did not have an opportunity to answer the survey via the Internet had the chance to fill in the survey form in paper in the City Hall of Seinäjoki.

Table 1. Examples of user involvement methods in different phases of user-centred design (UCD) process (Friedrich 2013, 27). The pink highlights show the methods which are used in the Case Keskustori (Seinäjoki) user-centred design process.

Design phase	Methods	User role
Exploration, user and context research	Contextual inquiry	responsive
	User diaries	productive
	Cultural probes	productive
	Focus groups	responsive/productive
	Interviews	responsive
	Surveys	responsive
Ideation	Brainstorming	none/ productive
	Workshops	productive
Concept design and evaluation	Interviews	responsive
	Workshops	productive
	Paper prototyping	responsive
Software development and testing	Software prototyping	responsive
	Usability test	responsive
	Field test	responsive
	Satisfaction questionnaires	responsive

2.1 The legislation guides city planning processes

It is determined in Finnish legislation that citizens have to have opportunities to participate and influence to the activities of the municipality. The Ministry of Justice in Finland has made the Constitution of Finland (L 11.6.1999/731, 2 §) which states at the Democracy and the rule of law clause that this law the powers of the State in Finland are vested in the people, who are representing by the Parliament. Democracy entails the right of the individual to participate in and influence the development of society and his or her living conditions.

The ministry of Finance in Finland as defined the Local Government Act (L 10.4.2015/410, 22 §) which clarifies at the Opportunities to participate and exert influence clause the rights of the citizens:

> (1) A municipality's residents and service users have the right to participate in and influence the activities of the municipality. Local councils must ensure that there are diverse and effective opportunities for participation.

> (2) Participation and exerting influence can be furthered especially by:
>
> 1) Arranging opportunities for discussion and for views to be presented, and setting up local resident panels;
>
> 2) Finding out residents' opinions before taking decisions;
>
> 3) Electing representatives of service users to municipal decision-making bodies;
>
> 4) Arranging opportunities to participate in the planning of the municipality's finances; 5) planning and developing services together with service users;
>
> 6) Supporting independent planning and preparation of matters by residents, organisations and other corporate entities. (Pieviläinen et al. 2008, 7–9; L 10.4.2015/410, 22 §; L 11.6.1999/731, 2 §)

The Land Use and Building Act (L 5.2.1999/132, 62–67 §) is one of the laws which city developers must follow. The main purpose of Land Use and Building Act (L 5.2.1999/132, 62–67 §) is to fulfil the needs and requirements of the town and country planning in the eyes of the tax payers. It is written in law the public officers who are designing these issues has to listen all the parties who are committed to this design process, for example citizens, land owners, representatives of the non-governmental organisations and other public officers. The last approvals to the plans are given by the politicians (Serola 2009, 46–47). City development is based on the Land Use and Building Act (L 5.2.1999/132, 62–67 §).

> According to the act everyone has the right to participate in the preparation process, and that planning is high quality and interactive, that expertise is comprehensive and that there is open provision of information on matters being processed.
>
> In section six, it is mentioned that plans must be prepared in interaction with such people and bodies on whose circumstances or benefits the plan may have substantial impact, as prescribed below in the present Act. The authority preparing plans must publicize planning information so that those concerned are able to follow and influence the planning process. (L 5.2.1999/132, 62–67 §)

2.2 Headings brief history of user-centred design in city planning processes

Junttila (2011, 7) defines that *Public Design* is a term which is a not very commonly known in Finland. In the Finnish language, there is not yet any established term for this design field. Even though, public design stands for design of public spaces and the functional elements in those spaces. At the cities under the public spaces consists of the public street, squares, parks and the furniture's, street materials and also furniture's of the public transport.

At the end of 1980's, the improvements of the city centre development projects started to boom in the Finland. One of the first city centre development project was done to the Lahti's Aleksanterikatu where was first done the development plan, and eventually the actual improvements in 1990's. The city centre development has become a routine in 1990's and 2000 century. It is common that co-creation processes are done together with different interest groups, traffic planners, environmental designers, architects, representatives of businesses, cultural services developers, sociologists, politicians and the city officers (Junttila 2011, 7).

According to Junttila (2011, 7) recent city centre improvements can be seen in Oulu, where the main square of the city centre, Rotuaari, has been improved. An underground parking system under the square was build there and the street areas are now car-free-zones and dedicated to be a pedestrian. Nowadays the trend is to build more functional and lively public spaces than just to build the street facilities such as roads. Increasing functionality and liveability are certain issues that have to be designed in such a way that they form a functional combination. These issues are: logistics issues, accessibility, functional business areas, lightning design, street art and heated street areas which make the public spaces more comfortable and functional. It is nowadays common that the co-creation is done between city officers, real estate owners and other interest groups in the city development processes.

Junttila (2011, 27) states that when building up a city environment with quality there is required the common will, support and visions of the city management. To fulfil the plans is needed a strong organisation of developers which has a clear

vision of the quality level which is required to build city environments of certain standard. Sometimes the quality levels are not achieved. There can be several reasons for that. For example, if there are not enough personnel and money resources invested to the development processes the quality level might not be achieved. Another reason might be that city organisations do not have enough knowledge of what is a good quality in the city development processes. Another problem might be that in the bigger cities there is not a common vision of the development processes and the responsibility stays with different departments such as who has responsibility of the street development does that part, and who design parks does that part and etc. In those cities who have a city architect and city planners or general planners takes the responsibility of the quality of design. In Finland, there is not a common rule of how these quality standards are done. On the other hand, each city should decide how this responsibility of the environmental design is organised.

2.3 User-centred city development methods

Haapamäki et al. (2011, 57–58) define *Public space* as a space which is open spatially and socially. The main principle is that everyone has right to use the public space. Usually parks, streets and event places of the cities are these kinds of places. Public spaces are physical spaces with social impact. Cities all over the world are aiming for liveable and safe city planning with a support of sustainable development. These aims can be reached by designing functional pedestrian areas, take care of bicycling issues and design public spaces in the way that those are functional. An attractive public space is which includes people who are interactive with each other.

Haapamäki et al. (2011, 59) mention that open discussion of the public space is the main part of the city development process. It is important to decide what kind city are planned (future goals), understand who are the users (user profiles), make sure that the human perspective is used in the design process and the design process done with user-centred design methods. City centres are places where interaction happens with different users such as citizens, visitors, tourists and business

users. Competitiveness and attractiveness are the key elements of city planning and city marketing.

Staffans (2004, 21) presents that a lot of perspectives have effects on how cities can and will be designed. The constitution law secures that citizens have rights to participate to the design processes. Citizens usually see environment as an entirety and designing as an intervention and a sign of change. The Land Use and Building Act (L 5.2.1999/132, 62–67 §) guarantees that citizens have an opportunity to participate to the design process with different kind of interaction processes. The education theory presents that an interaction process should be seen as a process which works in two ways. This can be called as a shared expertise with deeper understanding between participants.

Staffans (2004, 25) mentions that the city politics which is based on competitiveness emphasizes knowhow and the city who want to be competitive want to have people (citizens) with skills. According to Staffans, the city marketing departments usually believes that if these citizens are interested of the city environment, they are also interested of the city development and changes of the city.

Horelli and Staffans (2014) have researched the *smart city concept* which is a trendy concept that has been promoted by universities, global ICT companies (etc. IBM, CISCO and the European Union). This technocratic approach has been criticized in many publications. Horelli and Staffans argue that the smart city concept can be better understood and implemented through expanded urban planning approach. Smart cities are complex infrastructures which are controlled by urban operating systems. Smart cities are consisting of: social networking, geo-spatial layouts, collaborative platforms and widespread connectivity. The idea behind smart cities is that through the smart solutions problems like climate change, pollution and financial crises might be solved. In Europe, smart city characteristics are: Smart People, Smart Living, Smart Mobility, Smart Economy and Smart Environment.

According to Horelli and Staffans (2014), smart cities have had a criticism of lack of public participatory methods. The history of urban planning from the late twentieth century there has been more participatory approaches with new tools and

concepts which have risen by interactive ICT methods. Planners and developers have to adopt new methods and technologies to reach up the citizen participation up to a new level. Co-planning, sharing and distributing information can be done for example with Internet forums, mobile phone applications, GIS-based tools and social media channels.

Horelli and Staffans (2014) have researched the expanded urban planning approach (See Figure 6) which has been based on communicative and post-structural planning theories. This approach is dealing with the challenges of complex everyday life were a lot of scattered information comes from digital and non-digital sources, therefore, coordination processes are difficult to handle. The approach consist both traditional research and new enabling tools, which are including urban and community informatics at different stages of the planning cycle. This method also helps to analyse, plan, implement, monitor and evaluate planning and development processes with more intense. The expanded urban planning is also suitable for community development and local co-governance which consist of wide set of institutions and interrelationships that have influence on economic and social processes. The newer forms of governance are using monitoring, deliberation and self-organisation methods in their working processes and these could be called as co-governance. The co-governance (horizontal expansion) system is working by linking the formal (City councils and negotiations with the administrators of the city), to the semi-formal (local forums, for example panels at the Universities) and informal (discussions with citizens) networks to form a deliberative system.

Horelli and Staffans (2014) state that the expanded urban planning comprises the following characteristics:

Horizontal expansion:

- intertwining urban planning with community development and local co-governance

- systemic integration of institutional planning/silos with everyday practices as the planning process is interweaved with the content, for example the six dimensions of smart city

- urban planning targeting both physical and virtual realms

Vertical expansion:

- urban planning as a learning process covering the whole trajectory beginning from the political agenda and strategy setting with ex-ante evaluation, statutory processes and implementation to the ex-post evaluation of outcomes, including applied theories of change and implementation

- urban planning as continuous scaling from global to local and vice versa

- recognition of different timescapes (long term, short term, real-time, rhythms)

Multiple participations:

- urban planning enhanced by urban and community informatics

- balancing the formal, semiformal and informal activities, processes, partnerships, discourses, spaces and spheres through local co-governance and a knowledge management system

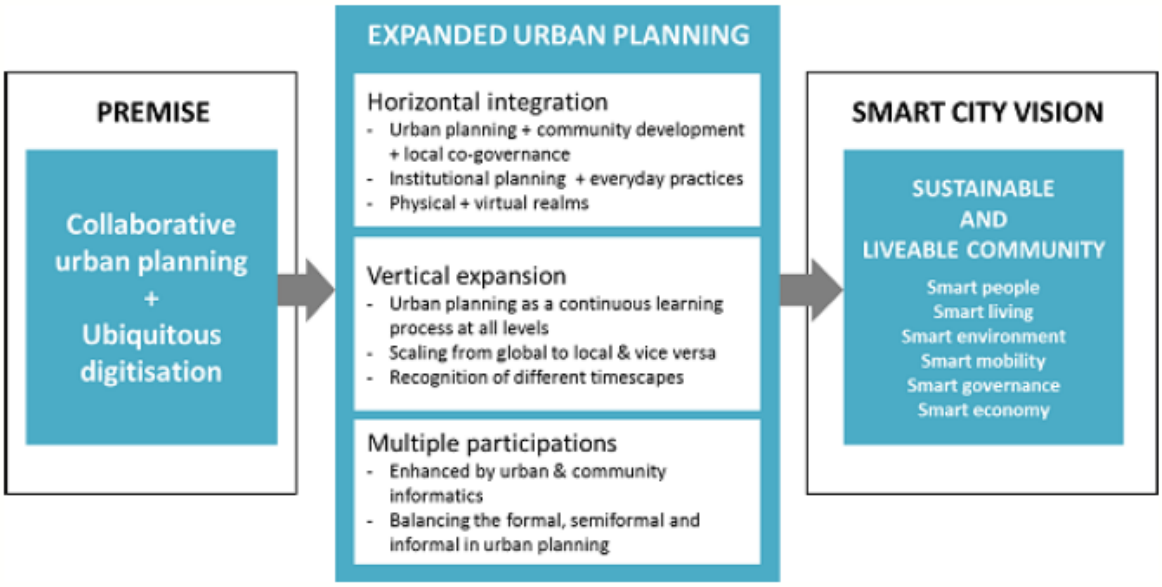


Figure 5. The expanded urban planning framework for understanding and shaping smart cities (Horelli & Staffans 2014).

2.4 The ABC model of the consumer behaviour

One of the research problems in this study is to find out what kind of attitudes and experiences the public officers have towards user-centred design methods and processes. The study uses the ABC Model of Attitudes (Askegaard et al. 2016, 285–288) to find out the answers to this research problem.

Attitudes are a person's overall evaluation of a concept. An attitude can consist of more than one function, even though, in many cases only one will be dominant. Attitude has been a key concept in psychology for more than a century and can vary with cultural context (Askegaard et al. 2016, 284–285; Blackwell et al. 2006, 374–375).

According to Askegaard et al. (2016, 284–285), the functional theory of attitudes was developed by the American psychologist Daniel Katz, who wanted to explain how attitudes facilitate social behaviour. Katz identified attitude to four different functions: 1. utilitarian function, 2. value-expressive function, 3. ego-defensive function and 4. knowledge function. The utilitarian function uses to obtain rewards and avoid punishments. Attitudes towards products and services are developed based on fact if it provides pleasure or pain. The value-expressive function expresses the consumer's central values or self-concept. This means that a person forms an attitude towards products or services based on what the product or service is saying about them as a person, not just what kind of qualities it might benefit. At the ego-defensive function attitudes are formed to self-protection, from internal feelings or external threats. At the knowledge functions, the attitudes are formed by as the result of a need for order, meaning or structure. With this function, the customers have brand loyalty towards the products or services.

The ABC Model of attitudes consists of three components such as *affect*, *behaviour* and *cognition* (Askegaard et al. 2016, 284–285). These components are part of all the attitudes. An affect (feels) is connected to consumers' emotions and feeling about an attitude object. The affect of attitude is used to express and validate our moral belief or value systems. The behaviour (do) model refers to a person's intentions to make an action towards an attitude object and therefore is determined of observing consumer's own behaviour. The cognition (beliefs) refers to

beliefs a consumer has about an attitude object. Beyond the physical and emotional reactions, there is this cognitive component of attitude. All these three components are important for defining the attitude towards products and services. The consumer's level of motivation is relative important issue. (Askegaard et al. 2016, 285–288)

The concept of a hierarchy of effects (Figure 7) has developed to explain the relative impact on an attitude. The hierarchy of effects can be divided to three categories (Askegaard et al. 2016, 285–288):

7. The standard learning hierarchy (think-feel-do) means that a consumer approaches a product decision is a problem–solving process,
8. At the low-involvement hierarchy (think-do-feel) a consumer's attitude comes through behavioural learning after the purchase is done and good or bad experiences of the product or service is experienced and
9. The experimental hierarchy (feel-do-think) is a consumer's act that is based on their emotional reactions. This angle highlights that the product attributes such as package design can influence the purchase decision.

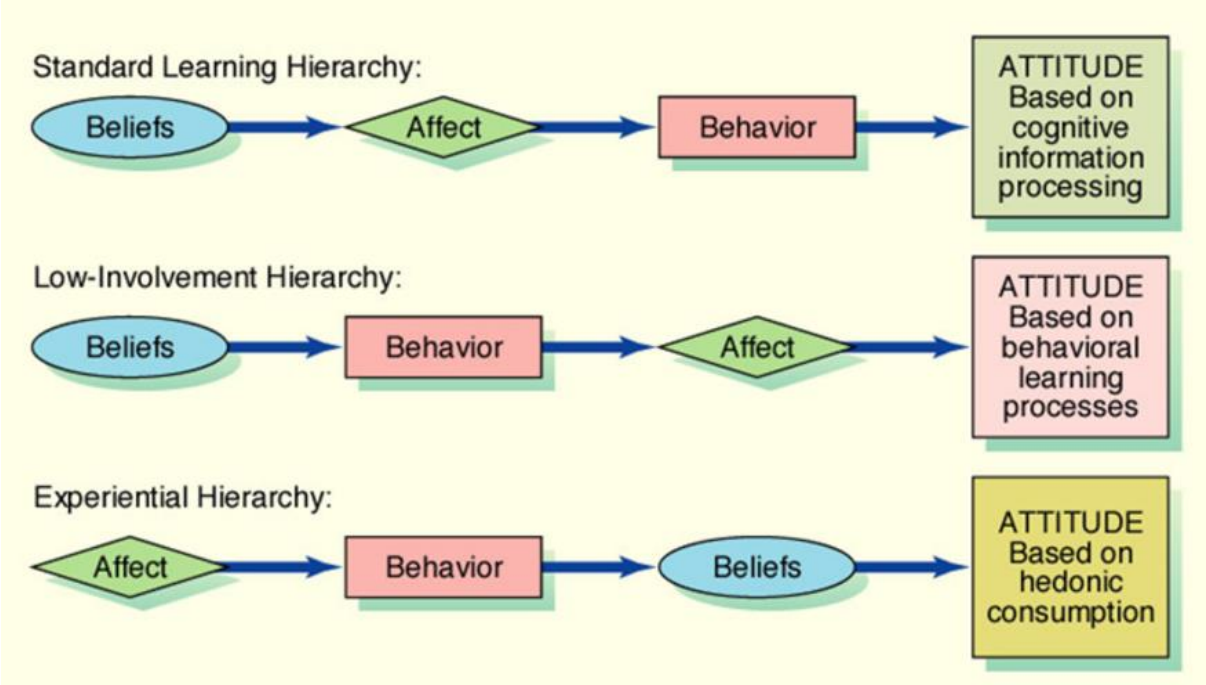


Figure 6. Three hierarchies of effects (Askegaard et al. 2016, 286).

Blackwell et al. (2006, 375) states that attitudes are global evaluative judgments and are closely related to concepts of intentions, beliefs and feelings (Figure 8).

Consumers might have either positive or negative attitudes towards the products or services. Intentions, on the other hand, are subjective judgments by people about how they will act in the future. Beliefs are subjective judgments about the relationships between two or more things. Feelings can be defined as an affective state or reaction. Feelings can consist of the mood you currently are in or what kinds of feelings are experienced during the product or service consumption. Figure 7, based on Blackwell et al. (2006, 375), demonstrates the relationship between intentions and actual behaviour and the fact that consumers typically do what they intend to do.

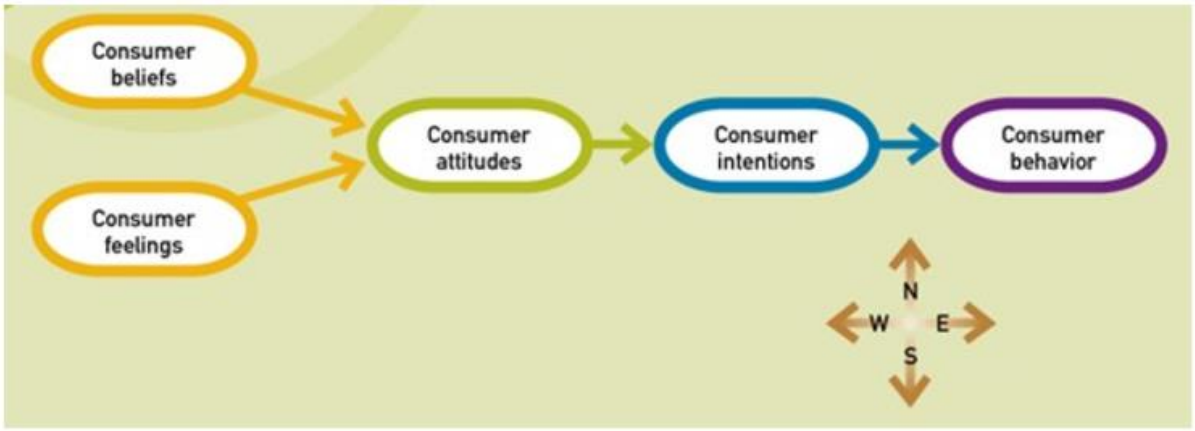


Figure 7. Consumer beliefs, feelings, attitudes and intentions (Blackwell et al. 2006, 375).

3 CASE KESKUSTORI AT CITY OF SEINÄJOKI: ACTION PLAN OF THE KESKUSTORI - PUBLIC MARKET AREA

The aim of this user-centred design concept was to develop an action plan to this new market square. For this process was developed a user-centred design process (See Figures 9 and 10), which main purpose was to gather development ideas from the citizens, entrepreneurs and landowners –those ones who are the area users. The design concept consisted different kind of steps (See Figures 9 and 10, steps I to VIII) where was used different kind of information gathering methods.

In this Keskustori case, an action study was conducted. The study results and action process are done simultaneously. According to Ojasalo et al. (2014, 37), the target of this kind of process is usually to change either human behaviour or organisational behaviour. An important factor is to make an actual change and evaluate it. Therefore, this kind of processes can take a long time to be fulfilled. The main attribute of the action study is that key persons of the developers participate actively to the development process. In the action study process are usually used different kind of methods, which enables participants' active involvement and their common interaction. In this user-centred design process was used online surveys, workshops and barometer methods for gathering information of the participants. And in the same time the working committee was working together to make the action plan fulfilled.

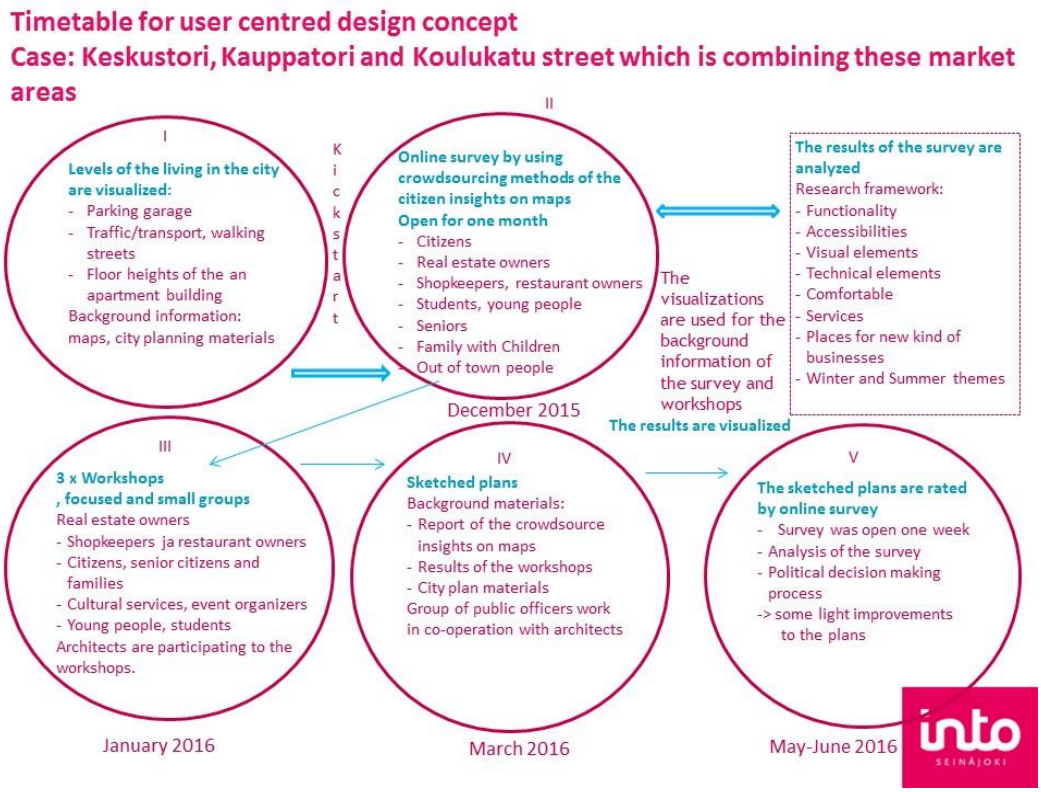


Figure 8. Timetable for the user-centred design concept from December 2015 to June 2016.

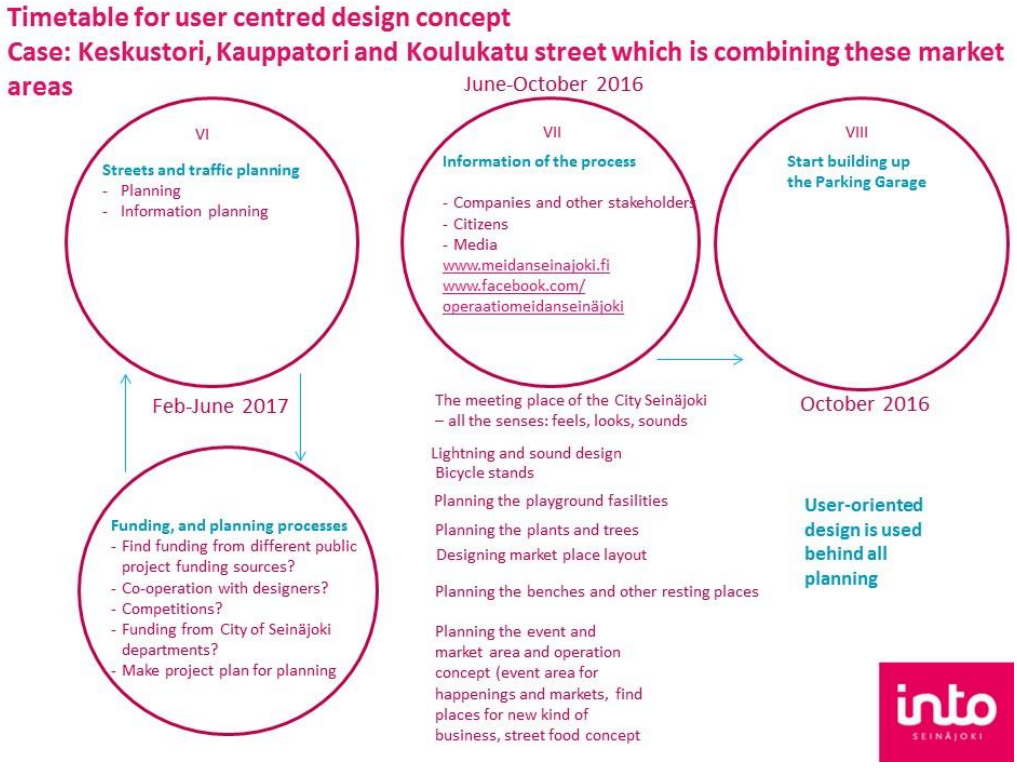


Figure 9. Timetable for the user-centred design concept starting from February 2017.

According to Serola (2009, 46–52), the city plan can be established for areas that are already built, if there is a real need for deviant renovation and rebuilding of the area. The main difference to the general plan is that also the landowners can make a proposal that the city plan could be changed. This happened in the case of surroundings of the Keskustori. Independent landowners Kiinteistö Oy Seinäjoen Yhdyskulma and Kiinteistö Oy Keskuskatu made suggestions as changes to the city plan. Other operators had needs for changes; for example, Seipark Oy (parking company of the City of Seinäjoki) had started planning underground parking system (Osallistumis– ja arviointisuunnitelma. Asemakaavan muutos Keskusta, [ref. 15 April 2017]).

This project started after the city plan (number 01098 Surroundings of the Keskustori) was verified on 8 October 2014. This city plan consisted of the areas of city blocks of 21, 23, 24 and 25. Also with all related streets, cycle ways and square areas of these blocks.

The time schedule of the city plan process:

- 5 October 2011 Technical board of the City of Seinäjoki decided to start city planning process
- 27 June –12 August 2013 the architecture sketch, participatory and evaluation plans are publicly open for commenting
- 9 April 2014 the city council accepted the sketched plans, and they are now publicly open for commenting
- 26 June – 8 August 2014 the plan proposal is officially open for commenting
- 18 August 2014 the city board accepted the city plan and proposes it to the city council
- 25 August 2014 the city council accepted the city plan
- 30 September 2014 the city plan came probated
- 8 October 2014 the city plan came incepted

(Keskustorin ympäristö, 01098. Voimassa olevat asemakaavat., [ref. 15 April 2017])

Behind the city plan process is the structured plan which was done in 2009–2010. The aim of this structured plan was to clarify the development principles of the city

centre until 2030. This structured plan has three aims, which are a colourful city of walking areas, business centre (shopping and office areas) with a lot of services and inspiring place for happenings.

Into Seinäjoki Ltd, Seipark Ltd and representative of Komia marketing concept decided to make a visualisation of this city plan process which can be used for marketing communication issues (Figure 11).

Figure 11 consists of four main parts of the city plan and an introduction of the Operation of Our Seinäjoki (Operaatio Meidän Seinäjoki) process. This process was established because of the common desire to develop the city centre and because it is part of the strategy of the City of Seinäjoki. It explains that the main steps of this city plan were made in cooperation with real estate owners, construction companies and entrepreneurs. The aim is to develop a city centre which is lively, active, attractive and comfortable.

The four main parts of the city plan process in this Figure 11 are: 1. an underground parking system, 2. higher residential buildings, 3. new street areas and 4. more business spaces. The underground parking system enables more efficient use of the street areas, and allows building higher residential buildings, which on the other hand requires certain amount of parking slots by law.

The city centre needs more residents to be lively and active. Therefore, it is important to build new residential buildings in the city centre. This city plan enables to build higher buildings, up to the eighth-floor high. The main goal is to have ten thousand new residents in city centre by 2030.

The street areas, parks and market areas should be designed in such a way that they are used more efficiently. The street areas should be designed in such a way that there would be more space for walking areas, because in the centre there is only one street which is pointed to be a walking street. Citizens want to have a city centre which is more safe and lively. There is also a need for a space where small events can be organized.

Figure 10. Visualisation of the city plan process dealt with.

With this city plan, more business spaces are built in the new buildings. The first two floors are pointed out as suitable for businesses, such as offices, shops and restaurants, which means that there is an opportunity to build new kind of business.

The colour descriptions of Figures 12 to 14:

- Blue: the situation nowadays, the buildings are almost at the same height (3–4 floors high)
- Red: new potential area of the higher buildings, up to the 8–9 floors high
- Yellow: space for pedestrian
- Green: parks, and other green spaces
- Structured grey: yards
- White: streets
- Black and grey: underground parking area
- Grey with street markings: a street at underground parking area

Another visualisation needed to be done before the concept was launched to the audience. The aims and future goals of 2030 of the city plan needed to be visualised. These visualisations help understand the future goals (up to 2030) of the city centre development. The first picture (Figure 12) describes the situation in the year 2015. In this picture, it can be seen that only the street of Matti Visannin kuja is a space for pedestrians (market with yellow colour to Figure 12). Because of the old city plan, the centre of the city does not have any high buildings (colour blue).

The second picture (Figure 13) visualises the future aims of the parking area system in 2030. The Keskustori underground parking is built in 2016–2017. Almost all the blocks have underground parking areas. They will eventually be connected together. Then, the whole underground parking system will consist of 1 700 parking slots. In the first part, the main entrance will be from the corner of Puskantie and Koulukatu. Eventually, there will be another entrance to the parking system also from Koulukatu.

In the third picture (Figure 14), new city centre opportunities are visualised. The city plans allow real estate owners to build higher buildings in the city centre (red areas), which means that the city profile will be rising, more facilities for the shops and restaurants will be build and which is the most important is that more inhabitants will more and live in the city centre. The aim is to have 10 000 new inhabitants to the centre of the city, which will make the city lively. One big change is that the centre of the city will have more street areas dedicated to the pedestrian, which means that there will be less cars and more walking areas in the city centre (yellow areas).

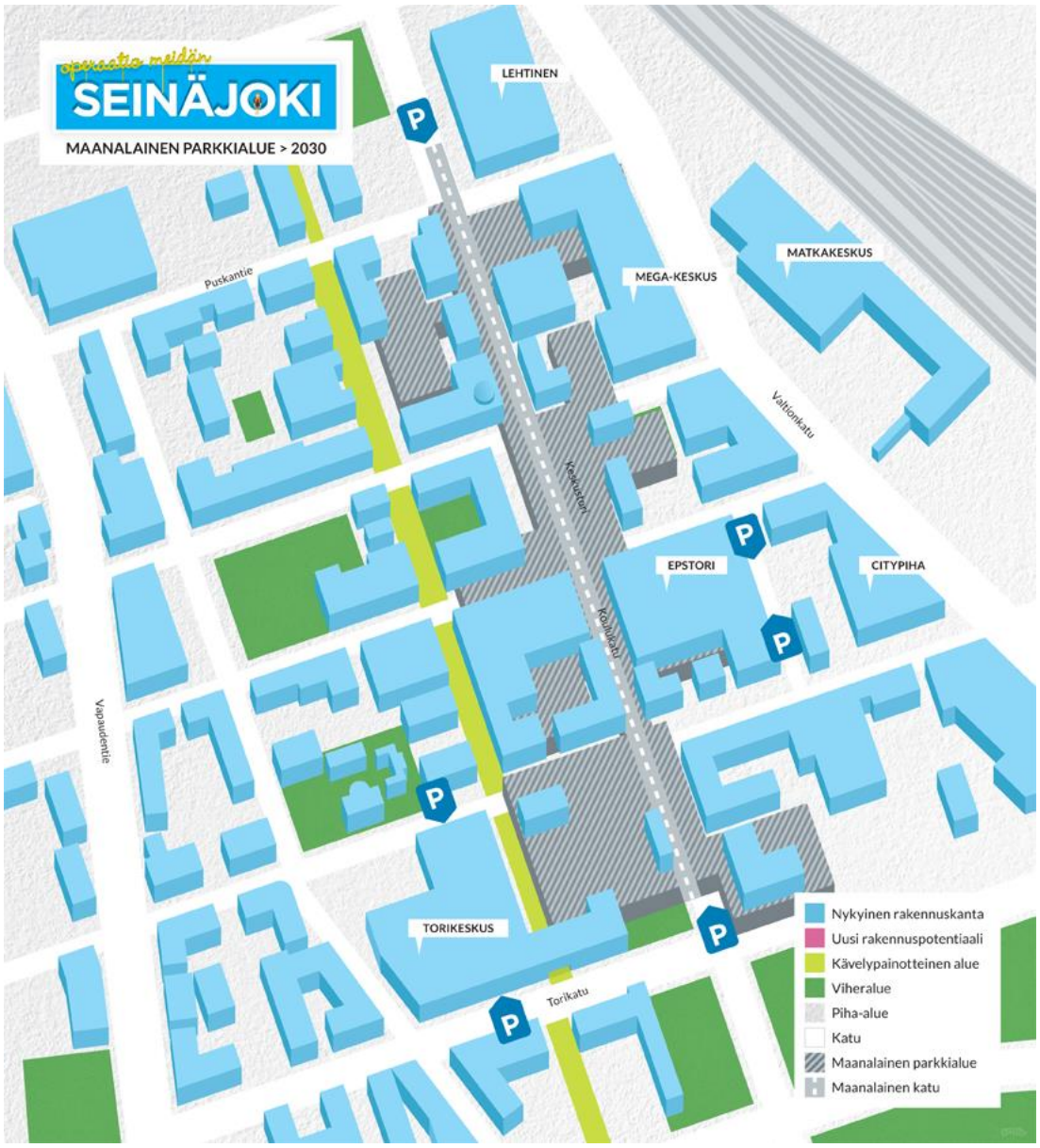


Figure 11. The situation in 2015.

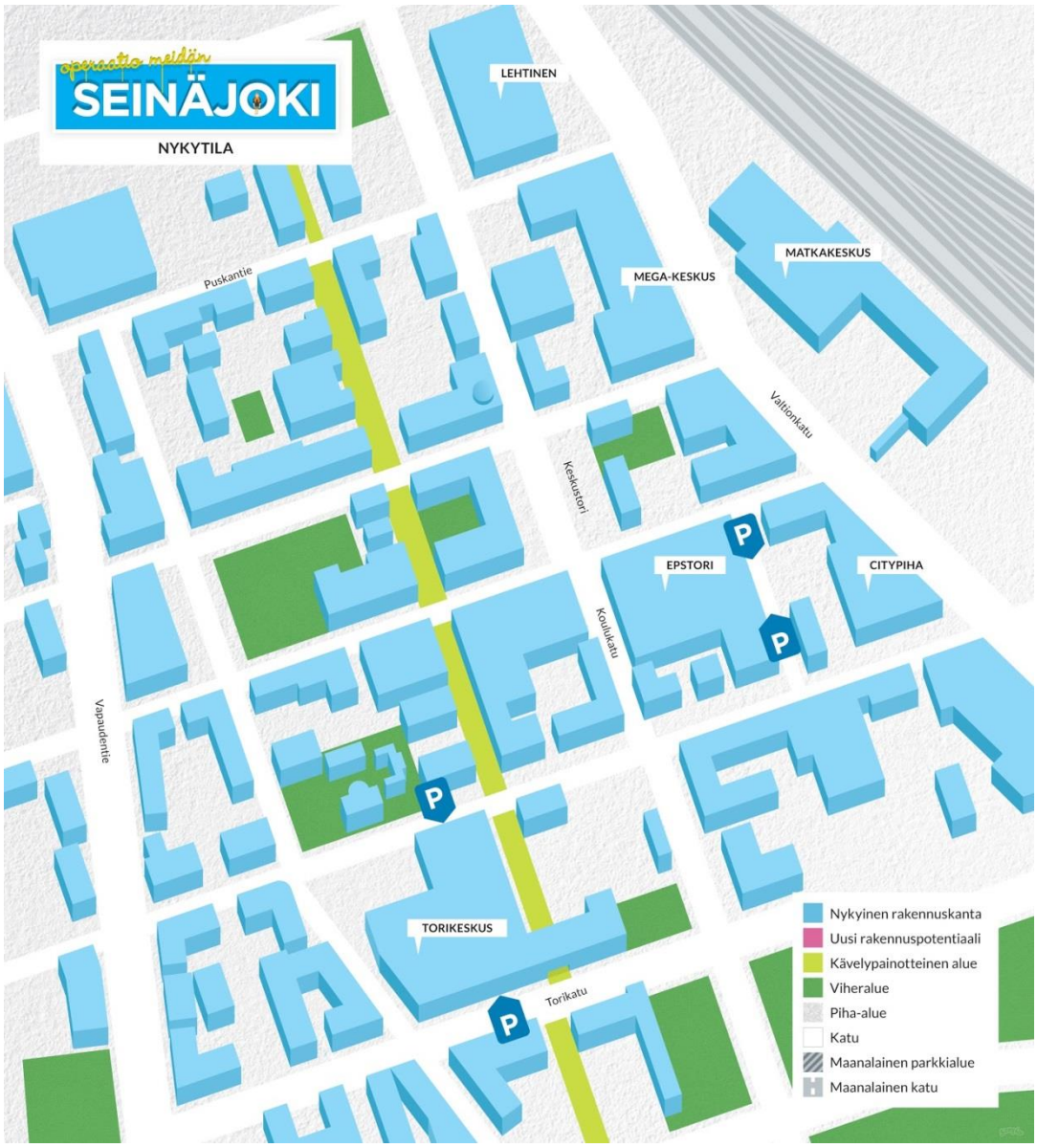


Figure 12. Underground parking system consisting of 1 700 parking spots in 2030.

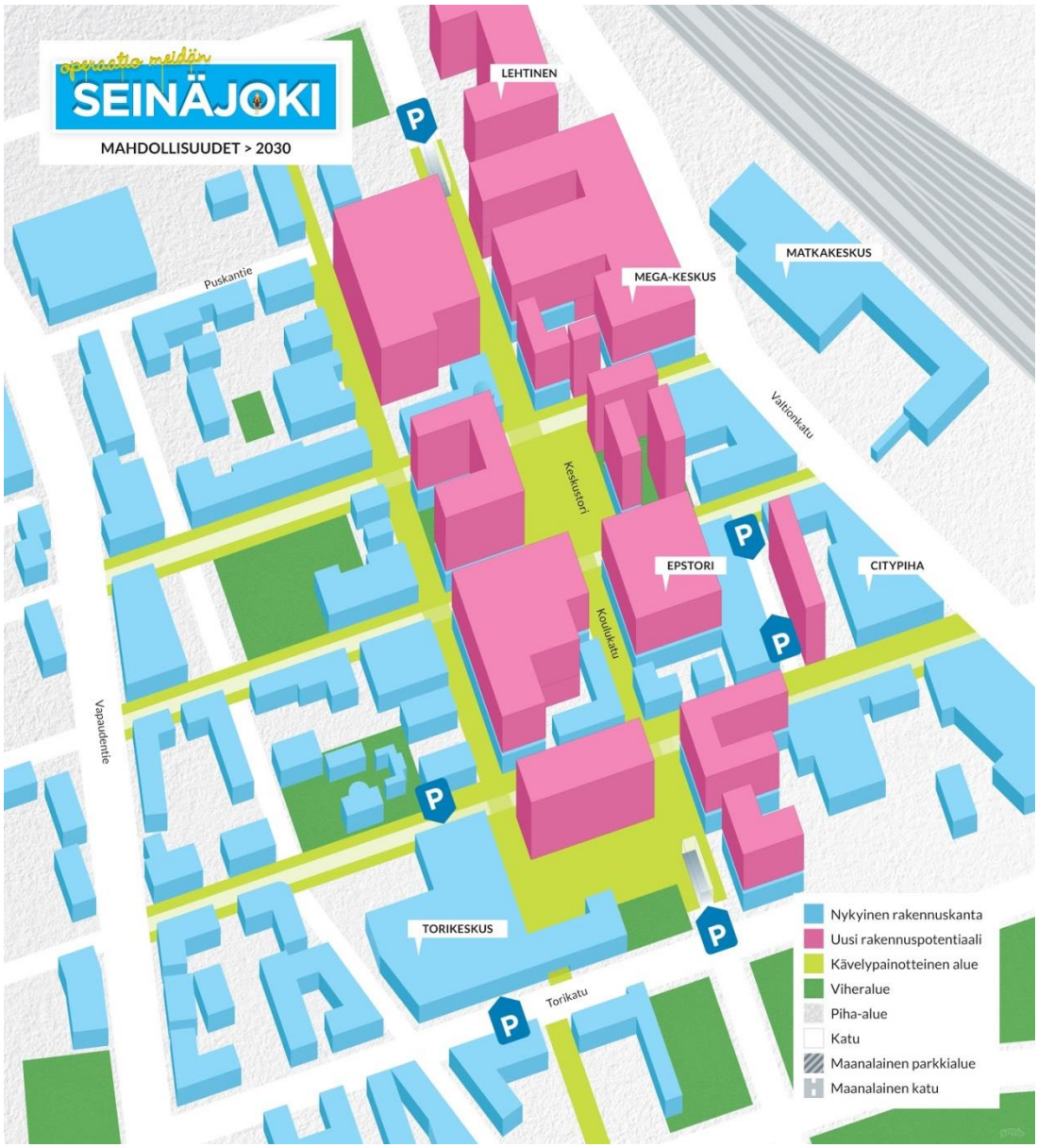


Figure 13. The city profile is rising, more space for pedestrians in 2030.

3.1 Seinäjoki City development strategy in brief

The City of Seinäjoki has a city development strategy (Kaupunkistrategia, [Ref. 18 July 2017]), which has been approved by the City Council. This strategy has approved until 2020 but the focus point is the functional council of 2013–2016. The strategy is going to be updated in the 2017 and it is going to be valid until 2020. Sustainable development is strategy's main theme for the whole period. The city development strategy is a main part of the leadership management of the whole

city organisation. The committees which are appointed by the municipal council are approving the specific programs of this strategy.

One of the main aims of the sustainable growth of Seinäjoki in the 2020 is that the city centre of the Seinäjoki is going to be a place which strengthens the attraction and competitiveness of the city. In the future, the city centre is going to be a comfortable and rich environment with a lot of city culture available. It will be the centre of the business, services, traffic, logistics and intellectual knowhow.

The strategy point two in the strategy is that the city centre is going to be reshaped. The aim is to build a comfortable and functional city centre by building up the underground parking system under Keskustori and develop the surface of the Keskustori. Another important issue is to discuss about the relationship between Keskustori and Kauppatori and make new user profiles to these areas.

The user-centred design concept of the Keskustori public market area is developed to fulfil the aims of the Seinäjoki city development strategy. It is mentioned in the strategy that the aim is to figure out the new functional profiles of these market areas and to find a balance between them. In the survey, the research area consisted of the both market areas/squares and the Koulukatu street area which is combining these areas together. Eventually the study area was limited to be only the Keskustori square and the development of the Kauppatori area was left for the future.

In the development process, the working committee made a suggestion of the recondition of the Keskustori, (Keskeisen reunaehtojen määrittely Keskustorin suunnittelussa, [Ref. 18 July 2017]) which are underlying the boarder functional lines of the area development. The issues are consisting physical and functional issues such as the market area is going to be transferred to the new Keskustori square, there is going to build new coffee house with multifunctional facilities, and there are going to be areas for kid’s playground, trees, benches, and the whole square is going to be profiled in the way that it is going be a central place for small city happenings.

3.2 Citizen insights on maps

Geographic information system (GIS) is main part of the modern landscape design process (Staffans 2009, 12). With this GIS based programs the data can be analysed fast and easily. The information is more accurate and easily visualised to the 2D or 3D models. The information flows between different organisations are more effective and increases designing cooperation. The geographic information system is designed to capture and analyse present spatial or geographic data. GIS is a concept which consists of information gathering, storing, analysing the data, and representing and visualising the materials with different media. To the GIS based programs the maps are the main part of it. The maps can be scanned or put to the digital mode. The opinions of locals and tourists can be analysed with the GIS programs. The respondents can give their opinions of the landscape design and add their visions of the landscape use to the maps. For example, they can add the positive places and places or districts with development opportunities to the maps. They can gather information of the places which need improvements. Internet can be used as a publishing media to this kind of GIS surveys. The respondents can add their opinions interactively to the database (Jokimäki et al. 2007, 23–26). The public and private sector operators believe that the use of GIS has been furthered because they believe that access and use of the computer tools and digital data forms has increased and it is an essential part of informationally enabled democracy (Sieber 2006, 491).

According to Kahila et al. (2012), computers are nowadays found not only on desktops in our offices, but they are embedded in the environment and in our pockets and handbags. In our smartphones, the *Global Positioning System* (GPS) technologies are helping us to navigate physically, socially and digitally around the environment. This dramatic increase of user– and citizen-generated geodata has evolved the GIS community growth with different kind of participatory methods. One of these participatory methods is *Public Participation GIS* (PPGIS), which is addressing the more participatory and bottom-up aspects of GIS. Sieber (2006) defines that PPGIS system uses the GIS to broaden public involvement in policy-making as well as to create value of GIS by promoting the goals of non-governmental organisations, grass root groups as well as *community-based or-*

ganisations (CBO). PPGIS increases the interaction between environment, individual and communities. According to Sieber (2006) the web-based PPGIS projects are good way to test the public opinions and for understanding of the constituents of meaningful participation.

The GIS community has grown up with the *Finnish innovation SoftGIS* method where the users are producing the geographical information of the environment. Usually this information is empirical and can be collected and processes as a part of the GIS programs. SoftGIS methods are internet-based surveys which are used for planning and researching living environment. Collected data is used by urban planners and other professionals who are interested in urban development and designing more user-friendly environments. The information and experiences of local inhabitants can be gathered and assigned by addresses or geo-coordinates and connected to actual physical settings.

SoftGIS surveys allow reaching respondents who are difficult to reach with more traditional participatory methods (e.g. public meetings). It is interesting is that both qualitative and quantitative research data, which is locality-based data, can be collected with SoftGIS surveys, even though the data is mainly quantitative and partly qualitative, because it can consist of open-ended questions. Data are generally aggregated in such a way that individual respondents cannot be identified. The residents evaluate their living environment voluntarily and give their opinions of the environmental improvements.

In the SoftGIS planning, the 4P Planning ideology was used at the background of this methodology. These 4 P's are public-private-people and partnership. Strategically these link to local government and public landowners, developers and private landowners and the people, who are end-users. The common goal of these user groups is to design a good living environment (Kahila et al. 2011; Kahila et al. 2012).

When the user-centred design concept was designed for the Keskustori case, it was important to make an internet survey which was open to everyone. The basic idea was to gather information of the citizen insights on maps, which means that the survey has to be done with an interactive map-based survey tool. This kind of

survey tool enables to conduct structured surveys with spatial data to gain a wider perspective of the citizen (users) opinions. The idea was collect ideas, feedback and insight information from users of the researched area because there might be something which has not occurred into developers minds beforehand. The users have practical knowledge and understanding of the areas.

The SoftGIS methodology was developed in a form that this survey was easily done without any background education of map based programs. In Finland, there are two companies who provide this kind of services. These are Harava, which is provided by Dimenteq Ltd. and Maptionnaire, which is provided by Mapita Ltd (Harava, [Ref. 26 July 2017]; Maptionnaire [Ref. 26 July 2017]). Harava (‘rake’) was developed in the Finnish national development project Action Programme on eServices and eDemocracy (SADe) and was launched in 2009. The aim of the Harava service is make it easier for citizens to participate in planning processes. The other service provider Maptionnaire is a public participation GIS (PPGIS) researching tool which has an easy data management with data responsibility in planning and GIS software. Both of the services had the needed qualities and functions which were needed to accomplish the survey of ours. Harava was chosen to be the service provider.

The survey consisted of the background information of city planning materials, such as the visualisations of the present situation, the possibilities of the underground parking system in 2030 and the vision of the arising city profile in 2030. It was important to give this background information because the respondents might not have the knowledge of this and these future plans which might have an influence on the opinions. The questionnaire was only conducted in Finnish because of lack of time and it was open for one month from the middle of December 2015 to the middle of January 2016. The questionnaire reached different target groups such as: citizens, real estate owners, shopkeepers, restaurant owners, students, young people, seniors, family with children and people out of town. With the knowledge of background information, the respondent levels could be monitored. If there was not enough answer to specific target group, there was done a special marketing campaign to reach the needed group.

The questionnaire was divided to four different themes:

- New kind of services/functionality
- Services
- Technical elements
- Visual elements

It was important to find out what kind of functions, services, facilities and visual elements should be in the researched area and what should be taken into consideration. Respondents could choose several options. The study area on the map was market and restricted to be the Keskustori and Kauppatori squares and the street of Koulukatu which is combining these squares together.

The themes consisted several issues to choose and also respondents had an opportunity to answer to open question formats.

The theme of the new kind of services/functionality consisted of:

- Skate park
- Ice-skate park
- Dog park
- Children’s play park
- A rental place for city bikes
- A place where mobile phones can be charged
- Speakers corner
- A place to buy of souvenirs (vending machine)
- Tourist info
- A public place/space for meetings
- A starting point for guided city tours
- Marketplace, for example Christmas markets, and Summer markets

The services consisted of:

- Coffeehouse
- Dog coffee house
- Cat cafe
- A cafe where can be organised workshops
- Ice cream selling kiosk

- Traditional grill food
- Street food
- Bars and terraces
- Selling places for example for handicraft products
- Market hall
- Lifestyle shops, for example a hairdresser, coffee house and clothing store are combined together
- Market selling: groceries and food

The technical elements consisted of:

- Performing stage
- Parks for bicycles
- Benches
- Guiding/information screens
- Public toilets
- Place to hang up paper flyers
- Statues
- Meeting place
- Big screen for happenings

The visual elements consisted of:

- Water fountain
- Screen
- Pushes
- Sounding systems
- Lightning of trees
- Lightning of surrounding buildings
- A local symbols of diamond square and colours of red and grey
- A greenhouse type coffee house
- Market selling facilities which are designed of modern or traditional style (local style)

The respondents had an opportunity to put spots on a map where they wanted certain items to be in the market research area. Those items are:

- Coffee houses
- Bars, restaurants, terraces
- Green areas and water fountains
- Event area and stage
- Market area (Christmas market etc.)
- Market sales (groceries, food)
- Functional areas (skateboarding/playground/sports)
- Bicycle parking areas
- Statues/art
- Public meeting place which has a roof

The research framework also consisted of several items which were analysed from the open questionnaire part. The analysed issues are: Functionality, Accessibilities, Visual elements, Technical elements, Comfortable, Services, Places for new kind of businesses and winter and summer themes. It was important to ask what kind of issues should be done that the square would have liveable life also in winter time? What there should definitely be and what not? What kind of happenings should be organised?

3.3 Participatory methods by workshops

According to Sanders et al. (2007, 5–9) and Friedrich (2013, 29–30) the Participatory Design (PD) approach (i.e. “user as partner”) has been led by Northern Europeans. The collective creativity in design has going under the name participatory design for nearly 40 years. At terminology point of view the participatory design in an older term than the new terms of co-creation and co-design which are basically means the same thing than participatory design. Holmlid (2009, 105) uses also a term of cooperative design which has been used sometimes of the participatory design.

Some research projects which have used participation in the system development approach date back to 1970s (Sanders et al. 2007, 5–9). It has taken a long time that the principles and practices of participatory design/co-designing have made an impact on design processes. There has to be a belief that everyone can be

creative, which is not a commonly accepted belief. One reason is that existing power structures in companies and organisations are built on hierarchy and control and this kind of co-designing approach might see as threat if the control is given to potential customers, consumers or end-users. The new generations are more willingly distributing and sharing the control and ownership of the ideas and product/service development. New technologies have eased the co-design processes in such way that companies have to pay more attention to user experience.

Johnson (2013, 2) states, that in user-centred design user research, scenario modelling and evaluation are done in cooperation with users. He also states that in participatory design users participate in design workshops and other co-design activities. According to Friedrich (2013, 23, 30) traditional participatory design is a design with real users which participate in design workshops where users meet face to face other users, designers and developers. Participatory design method can be seen as a context-oriented, iterative and collaborative method. Because participatory methods are usually workshop based the interaction between users and designers are often limited to singular events that support short term participation. Basically, at the workshops are time to share experiences and develop new ideas. Friedrich summarises (Table 2) the challenges of the traditional participatory design approach.

Table 2. Challenges in traditional participatory design (Friedrich 2013, 31).

Limitations of time and place	Only a small group of users can be involved
	The possibilities of participation by larger groups are limited
	Interaction is often limited to single events
	Face-to-face meetings are difficult in distributed development settings
Applying in a consumer context	It is challenging to find and involve consumers
Fluid roles	The division into users and developers does not hold good in a network society

Participatory design methods have been used in user-centred design concept for the Keskustori case (Figure 16). This part of process has been done with workshops which mean that respondents have had a major role in participation and

users have had a chance to have a face to face meeting with other users, designers and developers.

Figure 14. Participatory methods in the case of the Keskustori (Seinäjoki) user-centred design concept.

The workshops were designed in such way that the material of the online survey was used as a background material for the workshops. The development process included three workshops of maximum 20 participants per workshops, because larger amount would have been difficult to handle. The workshops had three different kinds of focus groups: 1. real estate owners, shopkeepers and restaurants owners or representatives, 2. citizens, seniors and families and 3. representatives of the cultural field, event organisers, young people and students. The facilitator to these workshops was Management of Design Intelligence Ltd (MDI). To the workshops also participated the architect company Laatio Architects Ltd, which is designing the action plan to the square area.

In the workshops, the participants made some conclusions to the needs and wants. The restricted area was larger than just the Keskustori area. The Kauppatori area and the Koulukatu street area was added to the restriction because both

of the square areas need clearing of the functions which should be in the areas and the Koulukatu is the combining street area between these squares. They clarified that there should be more benches and bicycle parking areas, Koulukatu street should be all year around pedestrian area, playground areas should be in the Keskustori, Kauppatori and Park Lakeus areas. They also wanted to have more bars, terraces and coffee houses in the Koulukatu street area. They thought that visual elements of the market areas should be designed commonly and existing shopping malls should be closer to each other, for example by covering up the street areas which are combining the shopping malls, this makes an effect of the “big shared shopping area”.

3.4 Respondent roles

Friedrich (2013, 27) has given (Table 3) examples of the different user involvement methods which are used in different phases of user-centred design processes. With the pink colour are highlighted (Table 3) the design phases, methods and user roles which are used in the Case on Keskustori user-centred design process. This Table presents that in this case was used both responsive and productive user roles.

Table 3. Examples of user involvement methods in different phases of user-centred design (UCD) process (Friedrich 2013, 27). The pink highlights show the methods which are used in Case Keskustori (Seinäjoki) user-centred design process.

Design phase	Methods	User role
Exploration, user and context research	Contextual inquiry	responsive
	User diaries	productive
	Cultural probes	productive
	Focus groups	responsive/productive
	Interviews	responsive
	Surveys	responsive
Ideation	Brainstorming	none/ productive
	Workshops	productive
Concept design and evaluation	Interviews	responsive
	Workshops	productive
	Paper prototyping	responsive
Software development and testing	Software prototyping	responsive
	Usability test	responsive
	Field test	responsive
	Satisfaction questionnaires	responsive

3.5 Political decision method in this case

In the 2nd Chapter different effecting user-centred city development methods are presented. These laws are: The Constitution of Finland (L 11.6.199/731, 2 §), The Local Government Act (L 10.4.2015/410, 22 §) and the Land Use and Building Act (L 5.2.1999/132, 62–67 §). All of the Acts requires that citizen insights have to be takes into consideration in city planning processes.

Seinäjoki City Development Strategy is one guiding line for city development. This strategy has approved by the City Council and it is valid until 2020. At the Chapter *3.1. Seinäjoki City development strategy in brief* is clarified more exactly what this strategy consists of. The strategy points out that the city centre of Seinäjoki is going to be reshaped and the aim is to build a comfortable and functional city centre.

Figure 19 visualises the political decision-making process which was used in the case of Keskustori user-centred design process. The group of public offices worked together with architect of Laatio Architects Ltd. to confirm the functional

plan to the Keskustori. The group of public officers produced the recondition plan to Keskustori (Keskustorin reunaehdot) which are underlying the boarder functional lines of the area development. The issues are consisting physical and functional issues such as the market area is going to be transferred to the new Keskustori square. This group of public officers presented these issues to the Official Developing Committee of the City Centre Seinäjoki. This committee is an official committee signed by the Mayor of Seinäjoki and consisting of politicians, officers of the city and representatives of major stakeholders of the city owned companies. This committee discussed of these issues and decided to present these to the City Board which accepted these and presented the issues to the City Council. In the beginning of 2017 the City Council accepted the recondition plan with the functional layouts and the design process of the details continued.

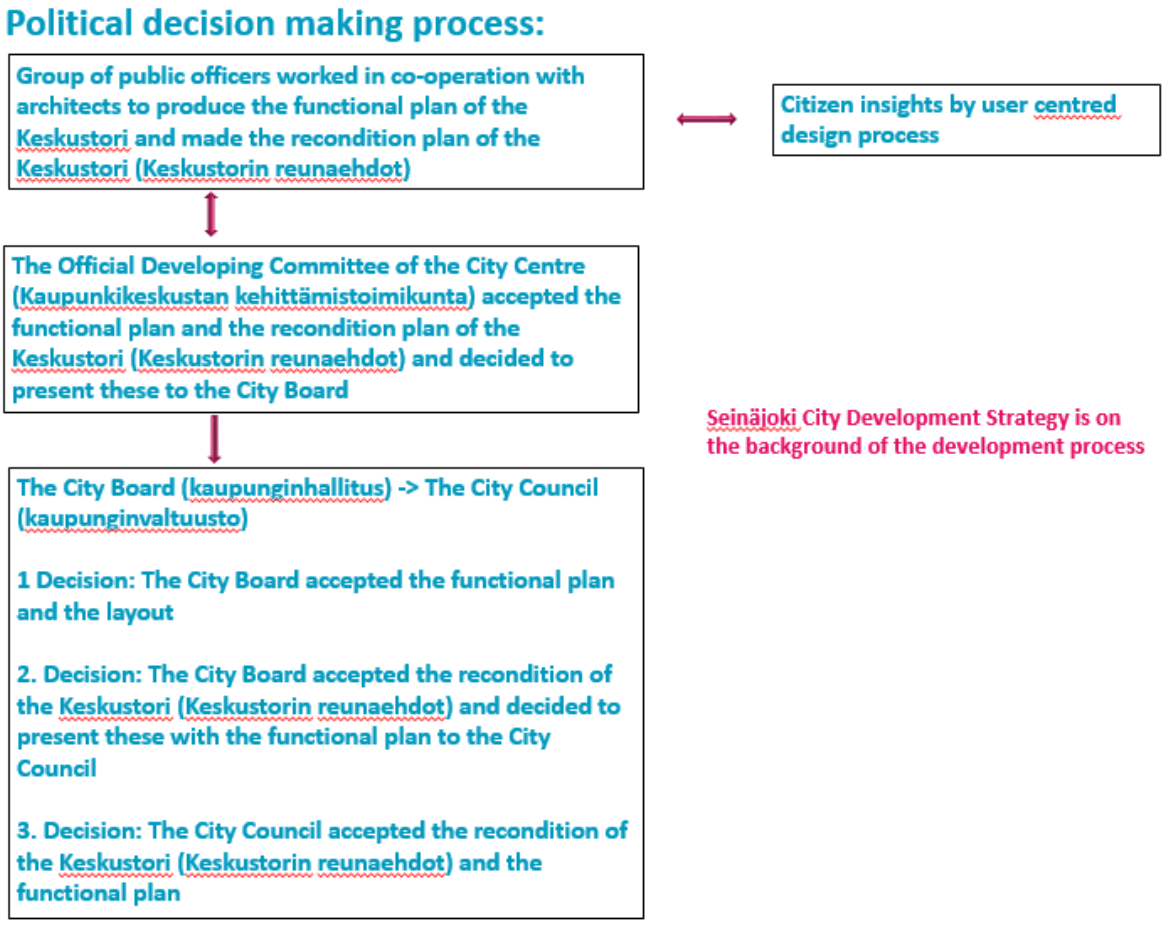


Figure 15. The political decision-making process of the Keskustori (Seinäjoki) user-centred design process.

4 QUALITATIVE RESEARCH METHODS IN THIS STUDY

A research problem can be a solution to finding why some phenomenon is working as it is, and what can be done to change its behaviour. The research problems and aim of the research are defining the type of research method which is used in this thesis. There are two research approaches which can be used such as qualitative and quantitative research methods (Heikkilä 1998, 13–14; Jankowicz 1995, 174).

The qualitative and quantitative research methods have common factors, for instance, it is common that in both approaches are to use the same sort of information gathering methods, such as, inquiries, interviews, and observation. In Table 4 the most essential differences of these approaches are described (Heikkilä 1998, 16–18; Hirsjärvi et al. 2000, 178–179; Jankowicz 1995, 175).

Table 4. The essential differences of the quantitative and qualitative research approaches (Heikkilä 1998, 16).

Quantitative	Qualitative
Answers questions: What? Where? How much? How often?	Answers questions: Why? How? What kind of?
Numerically large, representatively random sample	Narrow, discretionary gathered sample
The description of the phenomenon is based on numerical information	Understanding the phenomenon is done with so called softer information

In qualitative studies, the research questions are typically oriented to cases or phenomena, seeking patterns of expected and unexpected relationships. The qualitative research approach uses the knowledge of the psychological and the behavioural sciences behind the consumer choices. The information in qualitative research is usually gathered through of theme interviews and group interviews.

(Berg 2001, 3; Heikkilä 1998, 16; Stake 1995, 41) In this particular study is going to be used qualitative approach because it is more suitable for information gathering from the working committee. It is important to understand the phenomenon behind the scenes and find out their opinions about user-centred design methods. Therefore, the best possible choice for the research method will be the qualitative research approach.

4.1 Interview methods

According to Ojasalo et al. (2014, 106–111) an interview is a best choice of information gathering when a single person opinion matters in a subjective information source. An interview is also an opportunity to express opinions freely. It is a good choice if there has not been a lot of background information available beforehand. An interview can open a new kind of perspectives to the researched subject. One of the main purposes of the interviews are that it can clarify and give deeper insight to the researched subject. This method is a good way to go through some difficult subjects. When planning the interview context, it is important to consider what kind of information is needed to the development process or research process and how structured based the questionnaire is going to be.

There are different kinds of interview methods to choose: structured interview, group interview, focused interview or so-called semi-structured interview or deep interview. A structured interview is a good choice when the questionnaire is presented to larger focus group because the questions are presented in predefined order (Ojasalo et al. 2014, 106–111).

According to Ojasalo et al. (2014, 106–111) in the semi-structured questionnaire, the questions are predefined, but the interviewer can change the questionnaire order depending on the interview situation and atmosphere. A specific phrasing can change during the interview session. In this method can be asked questions that are not mentioned in beforehand. In an open interview process the interviewer and the interviewee will have an open discussion on a specific subject. The discussion is open and both participants take part in equally and in active way. This is

a good way to process something which is a phenomenon rather than a very specifically structured issue.

After the interview is done, it is transcribed, which basically means that the recorded interview session is going to be written open. There are two possibilities to choose, if the material is going to be written in standard language or as it was commonly spoken. If the issue discussed is the main focus, then it does not matter which way it will be transcribed. But if the phrases are used in the research as a specific reference, then it is important that transcription is done in standard language (Ojasalo et al. 2014, 106–111).

According to Ojasalo et al. (2014, 105-111), the transcribed material is typically categorised with different kind of themes. These themes can rise up from analysing the material and there can be some common factors between all the respondents. These phenomena can be surprising and new or they can be linked to the questionnaire themes. It is also important to analyse all the regular connections between the material findings. One way is to find exceptions from the material because it is not always enough to find only the common features of the results. When planning the interviews is a good thing to consider how to reach the saturation point which means that nothing new is going to researched depending how many persons will be interviewed. It is recommended that the transcription is done right after the interview is done because then the information is still fresh and some adjustments to the questionnaire can still be fixed.

The working committee of the development process are interviewed. The working committee is consisting of ten persons and this is a good amount to get valid results for the research questions of this study. The study uses semi-structured questionnaire because then the basic structure of the questionnaire will be same to everyone and this will guarantee that the analysis can be done in that way there can be found common factors and maybe some new issues.

4.2 Interview questions and analysis method

In this particular study, the aim was to find out how effective user-centred design city development process was in the eyes of the public officers and architects of the working committee and what kind of attitudes and experiences the public officers have towards user-centred design methods and processes? The working committee of the public officers consists of the following institutions and participants:

- Into Seinäjoki Ltd. (the development company of the City Seinäjoki): Manager of the Working Environment and Specialist of User-Centred City Development
- City of Seinäjoki: Chief of the Technical Department, Chief of Land-use Planning and Urban Design Department, Chief of Facility Services, Chief of Cultural Services, Chief of Parks and Green Areas, Chief of Streets and Traffic, Chief of Development Services
- Seipark Ltd (parking services of the city): CEO
- Laatio Architects Ltd.: architects

In this study, six people of the working committee were interviewed. The respondents represented the following institutions: Into Seinäjoki Ltd. (one respondent), City of Seinäjoki (four respondents) and Laatio Architects Ltd. (one respondent). All of the representatives could not be reached for the interview. Even though the amount of the respondents is valid enough to give the proper answers to the research questions of this study.

This study uses two theoretical models to find out the answers to the research questions. These models formed the interview questions (See Appendix 2). All the questions were designed on the base of the Keskustori action plan design process. The first part of the interview questions clarified the background information of the respondents. The respondents were asked their educational level, a short definition of the job description, what kind of role she/he had in the city development, what kind of responsibilities the respondent had in the city development and how long they had been working in this field.

The second part of the interview question form consists of questions which are based on the ABC model of Attitudes (Askegaard et al. 2016, 285–288). The question part was divided to three themes: 1. feelings, 2. action and 3. beliefs. All of the components consist of several sub questions (See Appendix 2).

In the first theme (feelings) the idea was to ask what kind of feelings the working committee have towards user-centred design methods. Respondents were asked to define shortly a term user involvement and to give the first three words/terms that come in mind of user-centred city development. It was also important to figure out what kind of expectations respondents had beforehand the development project started.

In the second theme (action) it was important to know what kind of actions the public officers and architects have done and are going to do towards user-centred design processes and methods. The action component had following themes: projects, what kind of methods have been used in these projects, facilitators and marketing communication. It was important to figure out if the respondents had ever participated in a project, which used involvement methods, what kind of interaction methods were used, had the projects been self-organised or with external facilitators and what kinds of communication methods had been used.

In the third theme (beliefs) was important to understand what kind of beliefs the working committee have about user-centred design processes and methods. In this part was asked if the respondents felt that interaction methods are going to be used more often in the city development project in Seinäjoki. It was also important to find out what kind of feelings the working committee had about the whole development process.

The second part of the theoretical models consists of Horelli's and Staffans' (2014) model of the expanded urban planning approach (See Figure 6). Through this model, three levels of expanded urban planning are investigated: 1. horizontal expansion, 2. vertical expansion, and 3. multiple participation. The horizontal integration part focused on the co-operation and communication between different interest groups (e.g. market traders, real estate owners, entrepreneurs etc.) and the working committee. The vertical expansion focused on the continuous learning

process and best practice experiences of the user-centred city planning processes. On the other hand, multiple participation focused on the successions of communication improvements of the user-centred city design processes on the base of the Keskustori case.

The analysis of the study was conducted by adding up the results together by each theme. The basic idea was to gather up a common perspective of each research questions and themes. The results were analysed in such way that the respondents' common view was presented and some points of the respondent's opinions were presented. Nevertheless, the analysis is not individualised, because this is not relevant for this study. The visualisation is an important part of the analysis. The visualised tables and figures gather up the different perspectives of the results and present the common view. The aim is to find out answers to the research questions and understand the outline of attitudes and perspectives towards the user-centred design methods in the city environment development processes.

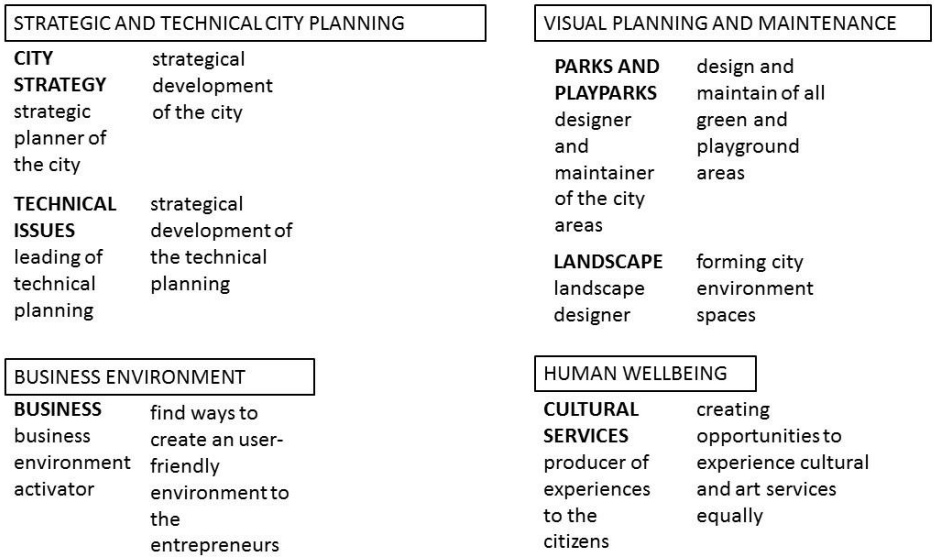
5 RESULTS

5.1 The background information of the respondents

The interview sessions were held separately with each respondent. It took around one hour per respondent to answer all the questions. All the sessions were recorded and transcribed. Six of twelve representatives of the working committee gave the answers. This is a valid amount because some departments of the City of Seinäjoki had several representatives in the working committee and one representative per department was enough to give proper answers. The respondents were both women and men, by 50 percentage shares. All together the respondents have 150 years of working experience in their professional fields.

The respondents work in the fields of strategic and technical city planning, visual planning and maintenance, business environment development and human well-being (See Table 5). Two of the respondents work with the city strategy development, and with technical planning, and they have the strategical development responsibility of the city planning. Another two of the respondents work with visual city planning and maintenance fields. One of the respondents works as a business developer and try to find ways to create a user-friendly environment for entrepreneurs. One respondent acts in the field of human well-being and creates opportunities for the citizens to experience cultural and art services equally.

Table 5. The background information of the respondents of the interview, case of the Keskustori development process.



5.2 How the respondents felt about user-centred city development concept

The questionnaire was based on two theoretical backgrounds. The part of the ABC Model of the Attitudes (Askegaard et al. 2016, 285–288) is divided into three themes: 1. feelings, 2. action and 3. beliefs. The first part feelings consist of the definition of the user involvement. The world cloud (See Figure 16) “user involvement” is formed based on the opinions of the respondents. From this world cloud collection is seen that only one term repeated twice, openness. These words can be divided to different categories:

- Communication and interaction methods: e.g. social media, workshops, gatherings and e-mails
- Action: e.g. enables, continuing, enthusiasm, influence
- People: e.g. citizens, public, equal, community
- Reasons: e.g. options, opinions, decision making, openness

These categories support the ABC Model of the Attitudes theory and the three hierarchies of effects (See Figure 6), which explains the relative impact on an attitude. These communication/interaction, action, people and reasons categories can be used in the same way like the Askegaard et al. (2016, 285–288) are using to build up the standard learning hierarchy (think-feel-do), low-involvement hierarchy

(think-do-feel) and experiential hierarchy (feel-do-think). The action and communication/interaction categories can be referred to modes that describes the behaviour (do). On the other hand, people category can be seen either those ones who act or to those whom the actions are targeted. By referring this to the Askegaard et al. (2016, 285–288) relative impact on an attitude, this category refers to persons who are doing, and to whom the doing affects, e.g. community. The last part reasons category highlights the attributes that gives the special meaning to the user involvement, e.g. that process of interaction has to be open, somehow structured (include options) and it is done for the reason, to support the decision-making processes in the city development.

Figure 16. The definitions of user involvement according to the working committee of the Keskustori development process.

According to respondents the user involvement is referring to the city development processes and to everyday life (See Figure 17). Figure 17 visualises the overall

view of how the respondents feel about user involvement. In this visualisation the citizen is the most important figure and centred in the middle of all the development processes and everyday life. Without citizens, the city does not exist. It is important to listen to citizens' ideas and wishes. This can be done by using different communication methods, e.g. arranging public events and by Internet and Social Media surveys and campaigns etc. One important issue rises up from the questionnaire, that it is a good thing that the person is a part of the community and communities somehow, even if the communities are Internet based systems. Because if the person is not part of any social groups, it means that the person is socially excluded. The respondents also pointed out that, in user involvement, ideas are the key factors. It is important to ask opinions of the citizens and also to benchmark and ask opinions from outsiders, because there might be some totally new and creative ideas that can be transferred into the City of Seinäjoki.

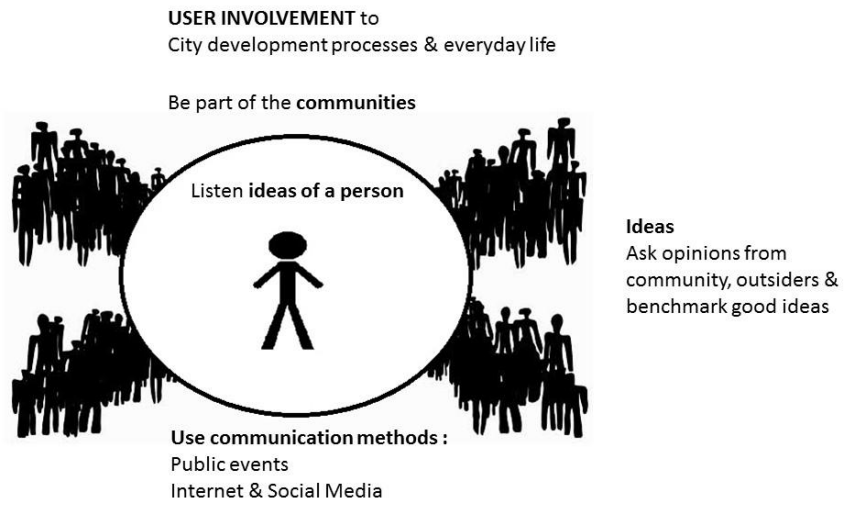


Figure 17. User involvement according to the working committee of the Keskustori development process.

According to Blackwell et al. (2006, 375), attitudes are global evaluative judgements and are closely related to concepts of intentions, beliefs and feeling (See Figure 8). Consumers have either positive or negative attitudes towards the products or services and these feelings can influence to the behaviour habits. Therefore, it was important to figure out which kind of attitudes the working committee

had towards the user-centred design methods and processes before the Keskustori development process started and after that ended.

In Figure 18 presents the feelings and important issues that the respondents had before the Keskustori user-centred design process started. In Figure 18 the inner circle presents the main issues that rise up from the interview sessions. There was anxiety because nothing has happened for the long time and there were a lot of expectations to the Keskustori renovation process. The Keskustori area experienced to be a bad city environment and some change to it is needed to be done. The respondents felt that the greatest expectation was the beginning of the development process, because this was a sign that some improvements actually happens. It was obvious that citizens wanted to participate to the user involvement process. There were more feelings included than expectations.

One of the respondents pointed out that this is the main spot of the city centre of Seinäjoki and a lot of interest accumulates to the area. The design has to be done in such way that it lasts next 50 years. This design process is a challenging process, because lot interest groups are functioning in the area.

This process had an architect who was not local. The architect pointed out that the workshops gave a local perspective to the design process, which was a good thing and this would be useful in a designing processes all over the Finland, because it will give the user perspective of how the environment works in a daily life.

One of the respondents pointed out that the basic idea is that to find out the guiding direction of how the Keskustori should be developed and this designing process should be done with interaction methods. It is important to take as many opinions to under consideration as possible and then form a common outcome from that. There was positively spirit that cultural services have been able to participate to the city development process with this kind of status.

Overall the respondents felt that the whole process went through with a positive spirit and participants were genuinely satisfied that they had a chance to influence to the city development process and the outcome of the designing process was good. The respondents are looking forward to hear the ideas of the citizens, because there might rise up ideas that could be different and new.

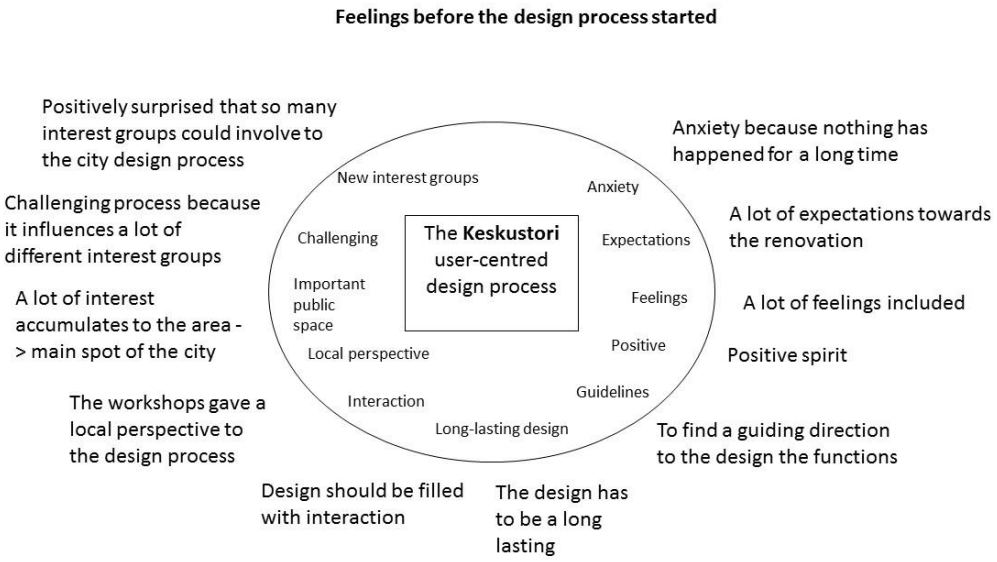


Figure 18. Feelings and important issues that rise up before the Keskustori user-centred design process started.

From the respondents was asked what kind of feelings raised up after the Keskustori user-centred design process ended, and the action plan of the area has formed (See Figure 19). Overall the feelings were positive towards the user-centred design process. One of the respondents mentioned that the designing process for the area is not ready yet and still continues, and there are still some issues going to be designed (e.g. the stone paving materials, art issues, café, lightning etc.), which have a great influence to the visual outcome.

One of the respondents pointed out that now is seen a positive enthusiasm towards the plans and a courage to make the investment. It was interesting to notice that the politicians and the upper leaders of the city have the completeness to make the investment. There is no more anxiety, it is more like an excitement. But on the other hand, one of the respondents point out that there was a bit too much expectations towards the plan and there were too many focus groups whose wishes should be solved in the same time. There is some freight towards the investment, if that is there going to be enough money for that. Respondents said that it

was interesting and promising that the design process went through fast and without compliments.

Respondents are open-minded and have expectant feelings of the coming up outcome. It is a good thing that user opinions are asked and their wishes are seen in the actual plan. It is also great that the plan has the art reservation places and those are actually going to come true. On the other hand, this process went through traditionally, maybe some issues could be designed in the new way. Overall respondents felt satisfied that could be part of the design process and have positive expectation towards the results.

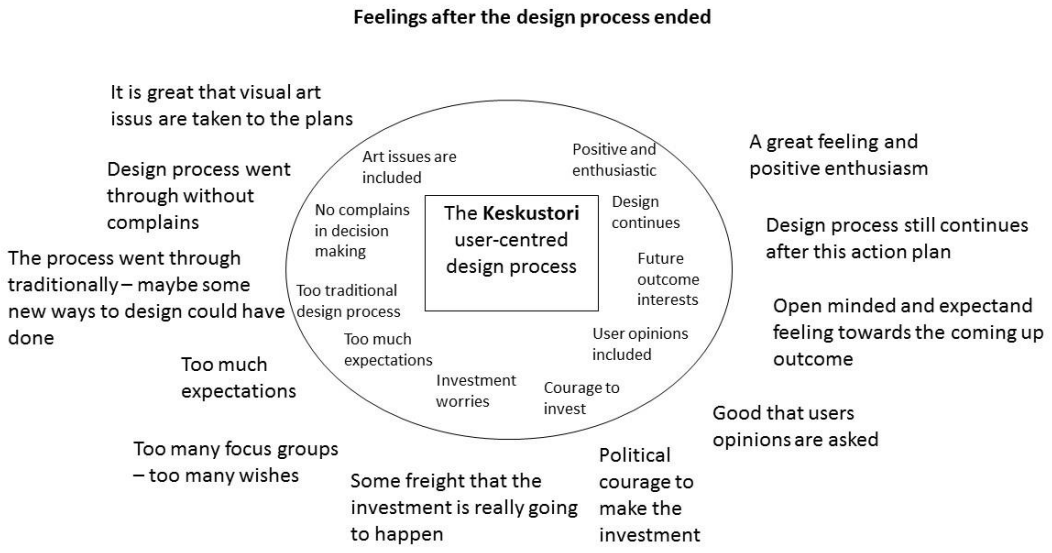


Figure 19. Feelings and important issues after the Keskustori user-centred design process ended.

Figure 20 presents the world of the user involvement project, which the working committee of Keskustori user-centred design process have participated in their working life. Figure 20 demonstrates that user involvement is influencing to the different sectors in the citizen life. In the inner circle is described the different roles of the working committee participants: a public officer, a developer and a city designer. The participants are operating under three themes of user involvement: 1. business environment, 2. citizen environment and 3. physical environment. The business environment is focusing on strategies, development programs and pro-

jects, networking and improving leadership issues. The physical environment is on the other hand, focusing on developing environmental issues, which are public and open areas to everyone, e.g. city centres, station areas, park and green areas and street areas. The last theme is the citizen environment, which consist of interaction issues. It is important that citizens have different kind of ways to interact to political elections, give opinions to the city plans and participate to the hearing events. Different kind of happening, events, and co-creating issues are important interaction methods in this theme.

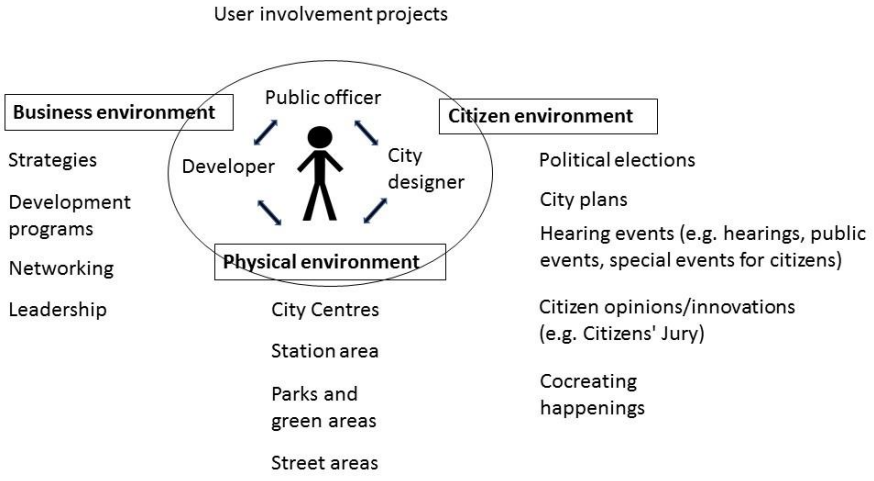


Figure 20. User involvement projects, which the working committee of the Keskustori user-centred design process have participated.

Figure 3 presents the different approaches of user roles, which were used in the Keskustori design process. In the Keskustori case was used online survey, workshops, survey of the best choice and barometer approaches. Figure 21 presents the different approaches to user roles in the citizen involvement, which the working committee have used at their work. This Figure 21 indicates how diverse approaches are used in the user involvement design processes. Two of these approaches differ from the others. The Citizens' Jury and hearings are the methods that are working as push methods from the citizens to the developers. Other ones are mainly working as push methods from the developers to the citizens. This is

not black and white, which means that interaction flows both ways, but the overall function in these methods and information flow is like this Figure 21 visualises.

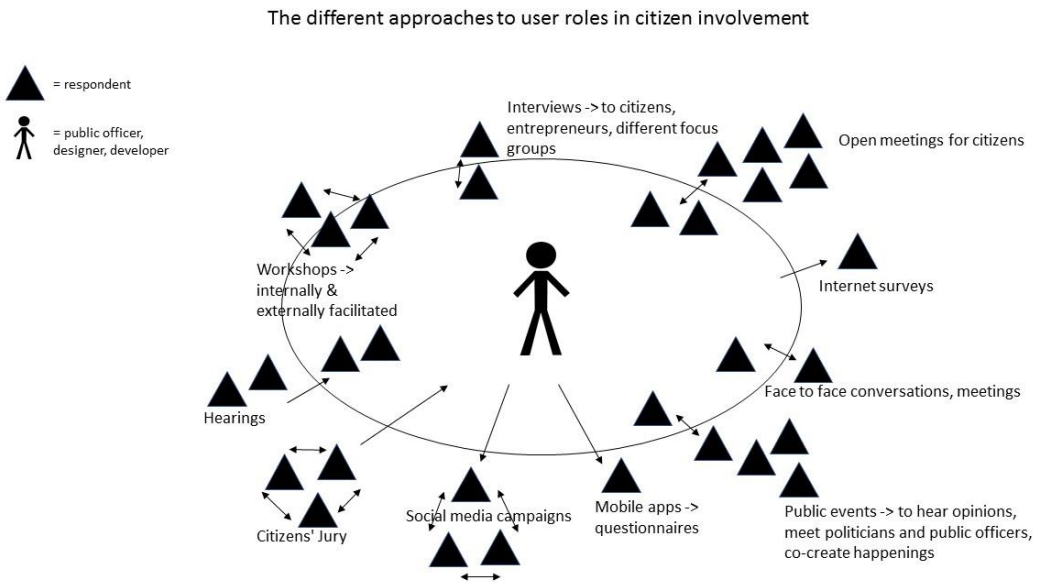


Figure 21. The different approaches to user roles in citizen involvement according to the working committee of the Keskustori development process.

5.3 The expanded urban approach methods in practice

This study uses Horelli's and Staffans' (2014) model of the expanded urban approach (See Figure 6) to find out how effective user-centred design concept is in the eyes of the working committee. The horizontal expansion explains how co-operation between different interest groups (entrepreneurs, real estate owners, marketplace sellers, builders etc.) and local community was arranged in the Keskustori case. According to the respondents the overall opinion was that there are some compromises made to the plan, because it is impossible to fulfil all the wishes. The focus groups have different kind of needs and requirements to the environmental planning. Some focus groups are focusing on architectural aspects and other ones more practical issues. One proof is that there were not any complaints towards the visual plans. The current situation in the Seinäjoki city area might cause one problem in the plan in the future, which means that there are not enough citizens living in the city centre are yet. This is the reason that the plan is

lacking the voice of the citizens who are living in the area. This might cause some issues in the future. The overall opinions were that the co-operation functioned well.

One aspect of the horizontal expansion is the physical and virtual interaction methods (e.g. online surveys, workshops and barometer) that are used in the design process. According to the respondents this combination of the interaction methods was very usable, because the process leaded to the voting phase step by step (See Figures 8 and 9). One respondent pointed out that this interaction model can be used in the following design processes too and then the users have already an experience and they can be called as experience experts in the interaction design processes. One of the respondent mentioned that two focus groups, children and seniors are lacking in this design process, because it focused mainly on online surveys.

According to Horelli and Staffans (2014) the expanded urban planning uses continuous learning processes and uses best practices to vertical expansion (See Figure 6). From the respondents was asked that did they feel the Keskustori case as a continuous learning process and what does that mean in practice. One of the respondents pointed out that the Keskustori case was unique, because there was a huge development pressure in the background and that was one of the reasons why this project was so popular and successful in the interaction point of view. Interesting is to see in future, that what are the drivers to interact to the development processes, which are focused to the areas that are not so interesting. One of the respondents felt that it was a good process to do co-operation with different fields of the city organisation. Timing and scheduling issues rose up from the results. This designing part for the action plan was quite fast done. It took overall six months' time to finish the action plan part. For the architects these was a good compact structure but for some participators of the process were too fast and the designing process still goes on. The overall opinion was that the city development processes are going to be influenced even more with the user involvement methods and this is seen as a continuous learning process. The user involvement process gave the local user perspective to the design and without this perspective the

designing process might focus to totally different issues. This is a good process to copy to other development project and to other cities too.

The vertical expansion can also be done with sharing best practices (Horelli and Staffans, 2014). From the respondents was asked their opinions about sharing and benchmarking best practices in national and international levels in the field of urban planning. The respondents mentioned that our city and our development processes in the different fields are benchmarked nationally and internationally. For example, our city could be seen as a best practise and used as city branding. Seinäjoki is a compact size and with low hierarchy and therefore the development processes are easy to plan and accomplish. These kind of best practices, which are combined to the special field/area, are difficult to duplicate to somewhere else. This is also the case for branding our best practices, e.g. in the children's day-care field the models are difficult to duplicate abroad, because our educational and city service systems differ so much. Some good cases are also benchmarked, e.g. Rytmikorjaamo (a hub based office space, which is combined with a music club), Rytmimusiikki-verkosto (the rhythm music network) and the Aalto Centre Seinäjoki. One of the respondents pointed out that new technology based systems are always worth of benchmarking, because those could be used in our city development.

The last part of the Horelli's and Staffans' (2014) model of the expanded urban planning approach consist of multiple participation, which means communication improvements of the Keskustori case. From the respondents were asked opinions of how they would improve ways to use user involvement methods between public officers, schools and citizens and could the community base city planning processes be improved somehow. One of the respondents pointed out the different roles what the citizens and public officers have. The citizens look the city development on perspective of how the development processes influence to their daily lives. On the other hand, the public officers have to keep in mind the whole range from the children to the seniors and the city development has to be long lasting and future oriented. The public officers have the responsibility to take care of budgets and timetables.

Overall opinion was that it is important to raise up common knowledge of the interaction city development processes and use the different methods more often, also in the service developments. One of the respondents mentioned that children focus group could be reached more efficiently by adding the city planning processes to the school's cultural education programs, because this is an existing forum and easy to formulate and used for architectural education and city planning processes. By adding interaction methods can be improved the communications issues and decrease the misunderstanding. The social media is seen as a channel that makes the interaction more equal to everyone.

6 CONCLUSION

In this study the aim was to find out how effective user-centred design concept is in the city development process in the eyes of the public officers and architects of the working committee. Another aim of the study is to find out answers what kind of attitudes and experiences the public officers have towards user-centred design methods and processes. The user-centred design concept was used to develop an action plan to the market square Keskustori, which is situated in Seinäjoki, Finland. The Keskustori development case was used as a background case in this study. The working committee consisted of public officers, business environment developers and architects. The whole design process is based on the Seinäjoki City Development Strategy, which points out that the city centre of the Seinäjoki is going to be reshaped and designed by participatory methods.

The present study uses two theoretical models to find out answers to the research questions. The first theoretical model is the ABC Model of Attitudes (Askegaard et al. 2016, 285–288), which consists of three components: affect, behaviour and cognition. The second theoretical model is the Horelli's and Staffans' (2014) model if the expanded urban planning approach (See Figure 6). The empirical part of the study is done by interviewing the public officers and architects (the working committee) who have been part of the design process.

The results presents that the working committee had a positive spirit and enthusiastic feelings towards the user centred city development process (See Figure 18). There was acknowledgement that the design process has to be done interactively and it has to be long lasting. There was also a common understanding that the design process is going to be challenging, because it influences so many interest groups and there has to be done some compromises to find the guiding directions to the plans. The results presents that the working committee still had a positive enthusiasm towards the development process after the action plan phase had conducted. There was an open minded and expectant feeling towards the coming up outcome, but on the other hand, an understanding that design process still continues after the action plan is ready. There was excitement that the design process went through without any complaints and the plan includes visual art issues (See

Figure 19). On the other hand, there was some freight towards the upcoming investments and some anxiety that there were too many expectations towards the design process. Overall opinion was that it was good that users' opinions were asked and there is political courage to make the final investments.

The results present that user-centred design methods are used widely in the city development processes in the City of Seinäjoki. Figure 20 presents that the projects are divided to three categories: 1. business environment development, 2. physical environment development and 3. citizen environment development. All these fields are equally important to the city development. It is important that the developers, city designers and public officers make the plans in co-operation and discuss which kind of approaches (See Figure 21) are the most suitable ones to reach and interact with the citizens. Another important issue is to keep in mind that all development partners have different development interest points, which should presented in the beginning of the development processes.

The results present that the used combination of the interaction methods were usable and functional to fulfil these kind of city development process. The interaction model can be used in the following design processes too and then the users have already an experience of participating to the user involvement processes. A good idea was to keep in touch with the citizens that participated to the design process, because they can be seen as experience experts and they have a great value to the design processes in the future. This gives the continuous learning process ideology to the city development processes, which was seen as an important issue.

Attitudes of the public officers and city developers towards user centred design methods are not commonly researched. This study presents that it was hard to find any theoretical research background, which has similar kind of research methods and aims. Mainly the user centred design in the city development field is researched in the customer/citizen point of view.

This study is useful especially for project managers and developers who are planning to establish a development process, which uses participatory methods and are concentrating to the city planning processes. In Table 6 presents the key fac-

tors that rise up from the research materials. Table 6 is divided to three categories: 1. planning, 2. implementing and 3. hints to improve the process. The first part planning consists of the issues that should be done before the implementing part starts. Planning and lobbying of the user-centred design process should be started early enough, because there are several issues that takes time accomplish, e.g. marketing and lobbying this kind of project to the citizens, media and focus groups is extremely important. It is also important to find out the most suitable design drivers to the development case, e.g. in the Keskustori case the design driver was to implement the functional/action plan.

The second part implementing is the part, which consist of the issues that are relevant in the project launching phase. First of all, there has to be a project manager to the project and the working committee, which consist of participants who have enough authority to make decisions. Open and communicative grip to the process is important in the first place. The materials have to be easy to understand and divided to different kind of medias, e.g. Social Media channels, Internet, mobile apps, newspapers, radio channels, articles etc. It is also important to lobby and budget the money to the investments. Therefore, it is important to inform the political decision makers of the process and involve them to the development concept. Important hint for the project manager is also that do not fall in love with the project and ideas, because the project is constantly changing and moving.

The last part of Table 6 presents the hints, which can be used seen as improvements to the user-centred design process. These hints are collected from the research material of this study. Figures 16 and 17 presents that it is important to go through the basic ideas of the user-centred design concept with the working committee and the key focus groups, because then the whole working committee have the same information and knowledge of the used methods. The main idea of the user-centred design concept is to hear the users and use different aspects of the communication methods, involve citizens and make sure that the processes are equal and open to everyone.

It is also important to present the most challenging parts of the process. One solution to this part is to discuss of the issues that are delicate in the design process. These might be the area, the function or the needed investment money of the de-

velopment process. These issues can be used as design drivers to the development projects. These design drivers need more investigation and could be suggested to be a follow-up research idea for the future. Figures 18 and 19 present the feelings that rise up from the interview results. These are issues that can be used to build up the design drivers. By comparing Figures 18 and 19 is seen the progress of the feelings towards the user-centred design process. In the beginning the feelings were open and enthusiastic, but still there were some expectations towards the user-centred design process. The working committee expected that the process gives guidelines to the design and keep in mind that the design has to be long-lasting and include the user perspective. After the process ended and the action plan was conducted, the feelings towards the process changed. There was still optimism and enthusiasm included, but also some anxiety and worries towards the investment money. There was a relief that the process did not receive any complaints. There were open-minded and expectant feelings towards the upcoming outcome.

The results point out that it is important to remember that everyone have different perspectives to the design process (See Figure 20). These perspectives mainly depend on the field that the working committee profession work on. Some work with the physical environmental planning, some implement issues that influences directly to citizen environments and some are developing the business environmental issues. For the project manager of the user-centred design process is important to realise the fact that different people have different perspectives to look at issues. One suggestion is to go through these issues by presenting Figure 20.

The last suggestion that rises up from the results is that it is important to present the different approaches of the user roles and approaches that can be used in the user-centred design process. Figure 21 presents the different approaches to user roles in citizen involvement according to the working committee of the Keskustori development process. It is important to understand the push and pull methods of the approaches, because these might influence to the results. For example, in the Citizens' Jury the main topic is presented by the developers but the whole process of the ideation is done between the participants and results are presented to the developers. With this kind of process, the push factor comes from the citizens to

the city. These kinds of methods should be added to the city development processes by using the latest technology apps and programs and arranging some new communication channels.

Table 6. Hints to the project managers to improve the user-centred design processes.

Planning	Implementing	Hints to improve the process
- Make plans on time - Plan the process together with the key persons - Make marketing and communication strategy and plans - Inform the media of the process - Find time for lobbying the idea of the user-centred design concept - Discuss and find the money to make the total investment - Find the design drivers (functions, users, money, area etc.) - Find out best interaction models for this case (See Figure 21)	- Find a person who co-ordinates the whole process, project manager - In the working committee has to be the persons who have enough authority to make decisions - Fulfil the user-centred design process, publish the process to the public - Find enough citizens and other focus groups to participate to the process - Find enough time to analyse the results - Present the results to the working committee and other key focus groups - Communication issues are important, keep in touch with media and other forums - Do not fall in love with the process, be ready to make changes - The political decision process has to be done correctly - Lobby the money to the investments	- Before the user-centred process starts -> go through the basic ideas of the user-centred design concept with the working committee and key focus groups (Figures 16 and 17) - Present the most challenging parts of the process -> each case is unique (design drivers) (Figures 18 and 19) - Point out that it is important to remember that everyone have different perspectives to the design -> be open minded (Figure 20) - Show the different approaches to user roles (Figure 21)

The City of Seinäjoki is updating the city development strategy during the winter 2017–2018 (See Chapter 3.1.). The city development strategy is a main part of the leadership management of the whole city organisation. One of the main aims of the strategy is that the city centre of the Seinäjoki is going to be a place which strengthens the attraction and competitiveness of the city.

The city council decided to start planning the congress and culture centre in Seinäjoki city centre (Seinäjoen kaupunginvaltuusto: 6/2017, 29.5.2017, [ref. 15 October 2017]). The next phase in the city centre development process is to develop the Seinäjoki railway station area. This development process should start at 2020. Another development area is the Lakeuden puisto (Lakeus park), which is area that is intended to be an area of public facilities. The main aim is to combine together the different functional areas: 1. the commercial focused city centre, 2. the administerial area of the Aalto Centre, 3. the logistical area of the railway station are and 4. the Lakeuden puisto, which is situated in the middle of this triangle.

This kind of process needs a project manager who has the common strategic and functional overview of the areas. The project manager needs common understanding of the different kind of requirements and expectations. The user-centred design methodology is the solution to fulfil this kind of design process. This study gives the basic understanding of this kind of user-centred design process and gives suggestions of the issues that need to be taken into consideration when planning and implementing new city environmental design processes.

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APPENDICES

APPENDIX 1. Interview Questions in Finnish

HAASTATTELUKYSYMYKSET

Taustatiedot

Vastaaja:

- Nainen vai mies
- Koulutustaso
- Määrittele lyhyesti, että mitä työtehtäviisi kuuluu?
- Minkä toimialan/yrityksen alla työskentelette?
    - elinvoima ja kilpailukyky toimiala
    - kaupunkiympäristö toimiala
    - sivistyksen ja hyvinvoinnin toimiala
    - Seipark Oy
    - Into Seinäjoki Oy
    - Arkkitehtitoimisto Laatio Oy
- Minkälainen rooli on kaupunkikehityksessä?
- Minkälaisia vastuualueita on liittyen kaupunkikehitykseen?
- Kuinka kauan on työskennellyt tällä alalla?

Kysymykset perustuvat asenteiden ABC –malliin (vaikutus, käyttäytyminen ja kognitio (tajunta) (Askegaard et al. 2016, 285–288)

1. **TUNTEET**

- Määrittele lyhyesti osallisuus
- Mitkä kolme sanaa/termiä sinulla tulee mieleen osallistavasta kaupunki-suunnittelusta
- Jos pystyt, niin määrittele millaisia odotuksia sinulla oli Keskustorin kehitys-projektia kohtaan ennen kuin projekti starttasi käyntiin?

2. **TOIMINTA**

Projektit

- Oletko ollut mukana projekteissa missä on käytetty osallistamisen tematiik-kaa?
- Missä kaupungissa projektit on toteutettu?
- Ovatko ne olleet palvelukehityksiä vai kaupungin fyysisiä tiloja?

Mitä metodeja näissä on käytetty

- työpajoja
- haastatteluja
- asukasiltoja
- nettikyselyitä
- kasvokkain tapahtuvia keskusteluja, suunnittelukokouksia
- muuta?

Organisointi/projektien fasilitaattorit

- Ketkä ovat olleet kehitysprojektien organisaattoreita?
- Onko organisointi tapahtunut sisäisesti vai ostopalveluina?

Viestinnälliset asiat

- Miten näistä asioista on tiedotettu? Kuinka osallistavat valitaan ja miten heille näistä tiedotetaan?
- Mitä hyviä käytänteitä osaa mainita, että missä osallisuus on onnistunut tai epäonnistunut?
- Mitä arvelet, miksi näin on tapahtunut?

3. USKOMUKSET

- Koetko, että vuorovaikutteista kaupunkisuunnittelua tehdään entistä enemmän Seinäjoen kaupunkisuunnittelussa?
- Miten näet, että se toteutettaisiin teidän yksikössä/toimialalla?
- Mainitse kolme fiilistä mitkä nousivat mieleen Keskustorin toimintasuunnitelman valmistumisen myötä?

Nämä kysymykset perustuvat laajempaan kaupunkikehityksen viitekehykseen, jonka avulla Smart Cities (älykkäät kaupungit) konseptia voi ymmärtää ja muokata (Horelli & Staffans 2014).

HYÖDYLLISYYS JA KOKEMUKSET

1. HORISONTAALINEN INTEGRAATIO (yhdentyminen)

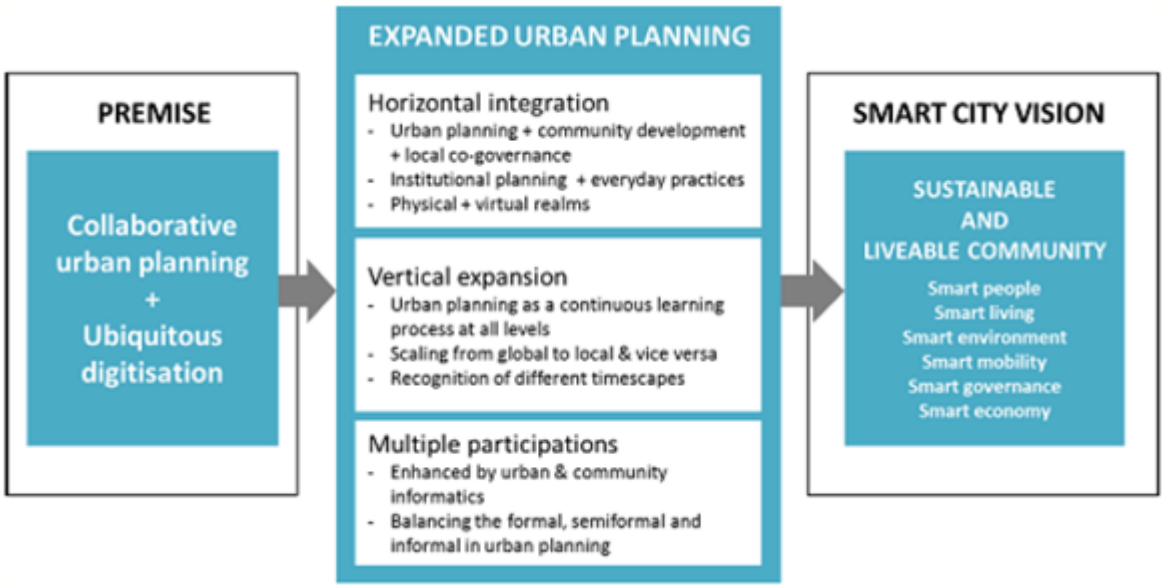
- Miten mielestäsi onnistui yhteistyö hallinnon ja yhteisön (sidosryhmien) välillä?
- Miten erilaisten sidosryhmien välillä olevat fyysiset ja virtuaaliset kohtaamiset on suunniteltu?

2. VERTIKAALINEN EKSPANSIO (laajentuminen)

- Miten koet, että kaupunkisuunnittelu toimii oppimisprosessina?
- Miten ajattelet, että voidaanko hyviä käytänteitä kaupunkisuunnittelusta saada sopeutettua kansainväliseltä tasolta meidän mittakaavaan sopiviksi?
- Voiko meidän kaupungin hyvät käytänteet osallistumisen saralla nousta kansainvälisesti merkittäviksi? Miten, esimerkkejä?

3. MONINKERTAISET OSALLISTUMISET

- Koetko, että kaupunkisuunnittelu tehostuu yhteisöjen viestinnän kehittämisellä? Miten tätä voisi kehittää?
- Miten parantaisit virkamiesten, oppilaitosten ja kansalaisten välisiä keinoja osallistua osallistaviin metodeihin?


PREMISE
Collaborative urban planning + Ubiquitous digitisation
EXPANDED URBAN PLANNING
Horizontal integration
- Urban planning + community development + local co-governance
- Institutional planning + everyday practices
- Physical + virtual realms
Vertical expansion
- Urban planning as a continuous learning process at all levels
- Scaling from global to local & vice versa
- Recognition of different timescapes
Multiple participations
- Enhanced by urban & community informatics
- Balancing the formal, semiformal and informal in urban planning
SMART CITY VISION
SUSTAINABLE AND LIVEABLE COMMUNITY
Smart people
Smart living
Smart environment
Smart mobility
Smart governance
Smart economy

APPENDIX 2. Interview Questions in English

INTERVIEW QUESTIONS

Background information

Respondent:

- Woman or Man
- Educational level
- Define shortly what the job consists of?
- Under which company/field is working for?
    - Civic engagement
    - Housing and environment
    - Culture and sports
    - Seipark Ltd
    - Into Seinäjoki Ltd
    - Laatio Architects Ltd
- What kind of role he/she has in the city development?
- What kind of responsibilities does the respondent have in the city development?
- How long has been working under this field?

The questions are based on the ABC–model of Attitudes (affect, behaviour and cognition) (Askegaard et al. 2016, 285–288)

1. **FEELINGS**

- Define user involvement shortly
- What are the first 3 words/terms that comes in mind of user-centred city development
- Can you define what kind of expectations you had beforehand the development project (Keskustori) started?

2. **ACTION**

Projects

- Have you participated to the projects where have been used user involvement methods?
- In which city these projects are fulfilled?
- Have these been service or city development projects (for example facilities)?

What kind of methods have been used in these projects?

- workshops
- interviews
- Open meetings for citizens, public events
- Internet surveys
- Face to face conversations, planning meetings
- What else?

Facilitators

- Who has been the facilitators for these development projects?
- Have this done internally or purchased externally?

Marketing communication

- What kind of communication methods have been used?
- Can you tell some best practices how user involvement has been success or failure?
- What do you think was the reason for that?

3. BELIEFS

- Do you feel that interaction methods are going to be used more often in the city development projects in Seinäjoki?
- And how these would be fulfilled in your department/field?
- Mention three feelings that you have had after the Keskustori action plan has completed?

The questions are based on the expanded urban planning framework for understanding and shaping smart cities (Horelli & Staffans 2014).

USEFULNESS AND EXPERIENCE

1. HORIZONTAL INTEGRATION

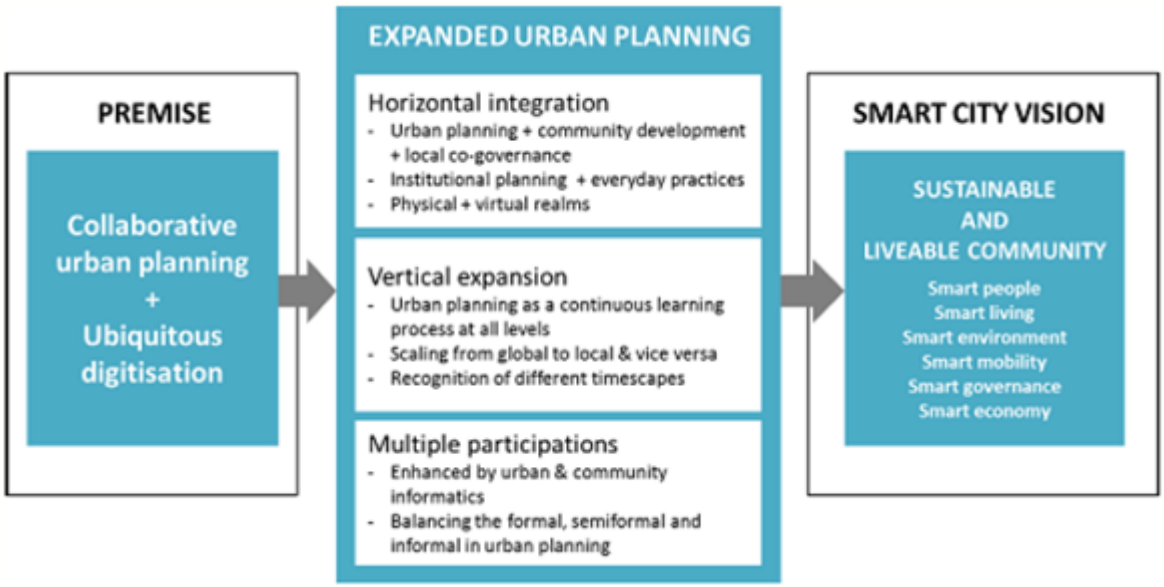
- The co-operation between local community and local co-governance (interest groups), how did it work?
- How physical and virtual interaction is planned with different focus groups?

2. VERTICAL EXPANSION

- How do you feel that urban planning works as a continuous learning process?
- Do you think that the best practices in the field of urban planning in international level can be used in our city?
- Do you think that our best practices in user involvement field can be an international success? How, examples?

3. MULTIPLE PARTICIPATION

- Do you feel that city planning is enhanced by improving the community based informatics? How would you improve that?
- How would you improve ways to use user involvement methods between public officers, schools and citizens?


PREMISE
Collaborative urban planning + Ubiquitous digitisation
EXPANDED URBAN PLANNING
Horizontal integration
- Urban planning + community development + local co-governance
- Institutional planning + everyday practices
- Physical + virtual realms
Vertical expansion
- Urban planning as a continuous learning process at all levels
- Scaling from global to local & vice versa
- Recognition of different timescapes
Multiple participations
- Enhanced by urban & community informatics
- Balancing the formal, semiformal and informal in urban planning
SMART CITY VISION
SUSTAINABLE AND LIVEABLE COMMUNITY
Smart people
Smart living
Smart environment
Smart mobility
Smart governance
Smart economy