Public Spaces as Evolving Frameworks: Applying Principles of Co-creation in Urban Planning

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Abstract – *There is a growing body of literature that recognises the advantages of collective human actions in various contexts. People can have more insights and social experiences when they collaborate in groups and can achieve better results than any single individual. In this paper, we argue that co-creation can be used in urban planning by treating citizens as active, creative, decision-making equals rather than passive recipients of top-down design. Rather than asking for citizen commentary on already set initiatives, collaborative techniques view city populations as agents of positive change, giving communities tools of direct involvement in outlining their needs and priorities, collaboratively finding solutions, influencing decisions and achieving better outcomes. The focus of this article is the creation of a typology of citizen engagement strategies in urban planning, which sheds light on broader issues around the relationship between technology, urban development and public participation. By exploring and critically assessing case studies of citizen co-creation in the city context, we attempt to show how citizen engagement can lead to construction and redefinition of public spaces.*

Keywords— co-creation; urban spaces; citizen engagement; smart cities.

I. INTRODUCTION

"Urban spaces and places are publicly-owned areas such as streets, parks, bike paths, streetscapes, recreation areas, green spaces and public squares. They are key components that enhance quality of life and well-being in cities. Public spaces are the 'hubs' around which communities organize. Both historically and currently, public spaces provide a sense of community, identity, belonging and inclusion, which can improve physical and mental health, spiritual and cultural well-being, and creative expression" [1]. Due to exponential development and growth of urban areas worldwide, public spaces are becoming increasingly important.

There is a growing body of literature that recognises the advantages of collective human actions in various contexts ([2], [3], [4]). People can have more insights and social experiences when they collaborate in groups and can achieve better results than any single individual. Involvement of citizens in planning processes is especially important topic in the research stream of smart cities ([5], [6], [7], [8]). While reviewing the literature about smart cities, it is obvious that research on tools for thought and decision-making is very limited compared to deliberations on infrastructure management (e.g. IoT integration, transport management).

In this paper, we argue that co-creation can be used in urban planning by treating citizens as active, creative, decision-making equals rather than passive recipients of top-down design. Rather than asking for citizen commentary on already set initiatives, collaborative techniques view city population as agents of positive change, giving communities tools of direct involvement in outlining their needs and priorities, collaboratively finding solutions, influencing decisions and achieving better outcomes. Contemporary channels of communication and information enable new ways for broader groups of people to collaborate in shorter amounts of time. It also allows officials to develop dynamic dialogues with citizens through shared networks, virtual collaboration tools. This leads to deeper relationships reinforcing development of smart and inclusive society.

Problem: What are the tools and strategies of citizen engagement in planning processes of urban spaces enabling co-creation?

Goal: The creation of a typology of citizen engagement tools and strategies in the development of urban spaces, which could provide insights on broader issues around the relationship between technology, urban development and public participation and provide conceptual ground for further research efforts.

Methods: literature review and synthesis, analysis of case studies.

II. THE ROLE OF CITIZEN ENGAGEMENT IN URBAN PLANNING

The definition of the citizen engagement concept is complex. It has been referred and illustrated with myriad explanations and meanings throughout the literature. In general, public participation is widely viewed as a basic condition of decision-making at all levels of governance (i.e. EU level, national level, community level, city level). More complex definitions have several building blocks in common: voluntary participation, citizen actions (e.g. volunteering, voting, donations) and it always refers to engagement in something. Thus, it makes no sense to discuss citizen engagement outside of a specific context. This article in particular focuses on citizen engagement in the context of smart and evolving cities.

There is an extensive discussion on appropriate forms and magnitude of citizen involvement in decision-making [9]. Traditionally, citizen participation focused more on forms of indirect involvement (i.e. voting). Recent societal and technological developments drive the need for broader and more direct forms of citizen participation. Opportunities for dialogue, deliberation, and creativity are transforming the culture of participation [10]. Innovative approaches towards citizen engagement (e.g. application of design thinking approaches in face-to-face collaboration with citizen, experiments with online democracy tools and platforms) are applied rapidly in local, national and even international (e.g. United Nations, European Union, World Bank) entities. De Lange and De Waal conclude that use of new media, technologies and collaborative methods promise several qualitative shifts in the way the public is engaged and empowered [5]: (1) collective issues can be defined and made visible more efficiently (e.g. use of big and open data); (2) engagement using

collaborative technologies and social media allow citizens to feel as a part of something bigger; (3) media technologies empower self-organisation when solving collective issues; and (4) media technologies allow individuals to act in new ways (e.g. design certain features of their cities or collectively govern urban issues).

"While participation in planning has been the subject of much theoretical debate in academic circles, there has been disproportionally little practical experimentation and development of new approaches involving the lay public in the planning process. The means for participation in planning that are usually provided are based more on consultation (hearing) rather than participation (listening)." The traditional process of urban planning is illustrated in Figure 1 below. According to Mart, such models are more rational tools and implies technical hierarchy which often means that the involvement of the public depends solely on elites' will and the help of experts [11]. In addition, citizens influence only a few aspects of planning process (highligtted in the Figure 1).

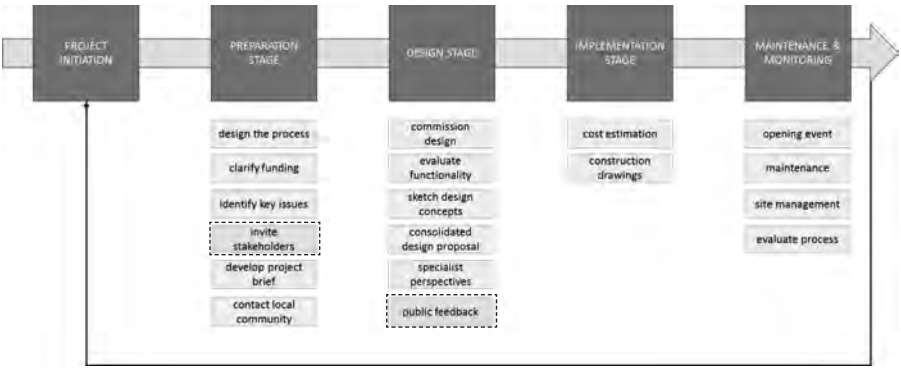

Fig 1. Traditional process of urban planning (developed by authors, 2016).

In current settings (i.e. globalisation, spread of ICT use, etc.) citizen engagement in urban space planning should, in our opinion, be approached holistically. Co-creation offers an interesting perspective in this respect, as it enables the integration of a range of ICT-mediated and offline participatory methods and processes. Co-creation is a new approach to development of urban spaces moving from domain of urban planners to a shared domain between professionals and citizens. Co-creation entails: connections (interactions between people, such as companies and customers, not just interactions between consumers and products) and collaboration (rather than just involvement). In its optimal form, co-creation has the dual benefit of reducing public sector costs and increasing stakeholder satisfaction [12].

Traditional models of citizen engagement into urban space planning can be considered outdated for several reasons. First, due to increased abilities of citizens to collaborate (e.g. new technologies, tools), many of the planning stages overlap and may be undertaken

in a different order. A more appropriate model of engaging citizens would look more like cyclical management of planning and not a linear sequence of activities. Second, there are many methods of citizen engagement that could be used at multiple stages of the planning process [13]. Third, mapping methods in a linear manner would not portray real-life situations. Linearity suggests that planning processes always have a definitive beginning and end which is not always true in development of constantly evolving urban spaces [13].

Our proposed model of co-creation in urban planning consist of two layers. The first layer involves the traditional stages of urban planning (which may overlap or be merged). The second layer is based on the management of citizen input which was created by Mindlab laboratory [14]. Mindlab's main focus was social innovation in the public sector, and due to this, it can be applied in urban planning too. The model of the co-creation process in urban planning is pictured below in Figure 2.

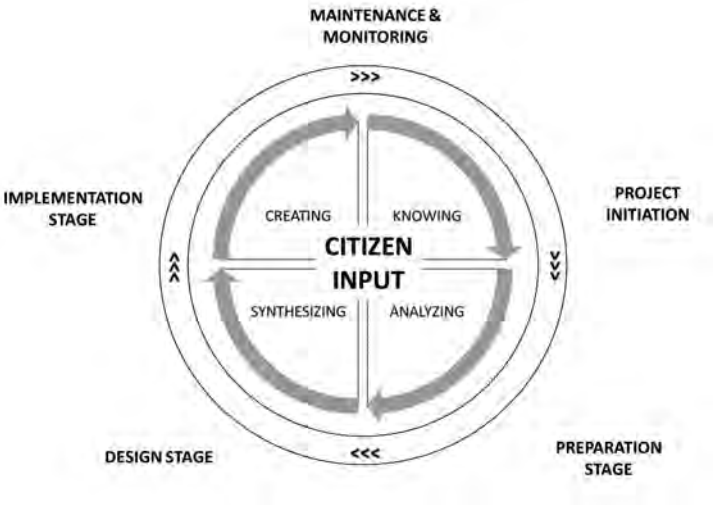

Fig 2. Model of co-creation approach in urban planning (developed by authors, 2016).

Further in our study we will develop a mapping methodology for citizen engagement strategies leading to co-creation in relation to urban planning process based on the analysis of qualitative analysis of selected case studies.

III. MAPPING THE METHODS OF CO-CREATION IN URBAN PLANNING: TOWARDS A CONCEPTUAL FRAMEWORK

The following section will analyse case studies of collaboration between citizens and architects in creation of multifunctional solutions for existing urban spaces in Lithuania (Vilnius and Biržai). The cases were chosen for their diversity and will allow insights into the factors influencing the success of co-creation in urban planning. Case studies were analysed on three levels, i.e. strategy, organisation and processes, in order to develop

critical dimensions for the conceptual model for mapping engagement strategies and could be used as a foundation for further scientific investigations.

A. Case study 1

1) Context & tackled problem

Four groups of architects analysed the territory of three blocks in order to provide visions for an up and coming district. The area in question lies in a former industrial territory. It is now inhabited by strong-bounded and creative communities of artists, musicians and people alike. The cooperative spirit, willingness and ability to achieve solutions of these communities is extremely important factor in the success of the conversion project. A key problem is an extensive use of existing spaces (clear potential to become public spaces)/abandoned inner yards still used for industrial purposes / closed inner yards formerly used as technical areas for industrial purposes (loading, unloading, storages, technical equipment).

2) Strategic role of citizens

Citizens are part of the workshop. However, their input is limited to providing information and evaluation of proposals.

3) Organisation of the work with citizens

The groups of architects used citizens and communities as a source of information. Their input was as important as current building regulations, researches, historic information or opinions of other professionals. Communities living and creating in the district were included and analysed. In addition, alternative solutions such as a union of all communities were proposed too.

4) Processes of citizen input management

Three processes of citizen input management could be distinguished after analysis of the workshop processes.

The Game. Architects and urban designers use their knowledge and research to identify different typologies of existing spaces. Areas are then divided into "top-down" (uninhabited, public) or "bottom up" (inhabited) types. In the context of this workshop, the bottom up type refers to spaces presented to communities as a playground and mapped using a grid. Every member of the community has a spot of ground or rooftop to use according to their own preferences. Areas are then analysed to find an areal pattern of suggestions, as an open data for further solutions. Top-down areas, in the context of this workshop, are then connected with bottom down ones, according to the areal maps, using proposals of the professionals. *The Game* has great potential for data gathering on various issues concerning urban spaces.

The Hobby. The area is analysed as a solid playground (giving the fact that other aspects of life such as accommodation and occupation is already taken care of and not in the field of possible change), place of active/passive recreation. The population of citizens are

divided into communities, giving them freedom to decide what kind of activity they prefer, also suggesting activities for neighboring communities. Each of these suggestions are presented to all the communities, trying to find people with similar interests. This way a community is aware of other communities and also responsible for its well-being. This strategy of co-creation creates a chance for democracy, but also takes care of individuals, that might not agree with the majority, and gives them the possibility of using property of other communities nearby. This solution is, or can be based on community with similar aims or hobbies, as well as group of people with similar professional or recreational interests.

The Open City. The area is analysed as a space, to create an open urban community. Given the fact that there are several existing and active communities of younger inhabitants already in the area, there are residents (especially seniors, living there for a longer time), that are usually more self-involved and not willing to participate in changing the area. The most important aspect, is that given communities operate in their physical boundaries, provided by urban architecture, which no longer functions, and is no longer needed to function. The solution is presented by architects and urban designers, who provide a top down approach to the evolution of the area in question, right until the limit, where they meet bottom up approach. In other words, the professionals provide the necessary solutions to create a space for a community. The community then creates a goal, to unite all individuals. Goals can be continuous, ever changing – like creating a sculpture - or constant - like an open cinema or rooftop football pitch. For this model to work, a model of compensational mechanisms is required. To provide a space for community projects, a lot of private property can be effected (taking down existing low quality buildings, creating pathways on private land, removing parking spaces from territory, etc.). But if these difficulties are solved by professionals, a lot of the bottom up activity could be liberated. The aspect of motivation is greatly important in this model.

B. Case study 2

1) Context & tackled problem

A workshop in a small town of 15,000 citizens. Deserted, disconnected public spaces, parks and recreational areas. Wide, uninhabited areas called as public squares as a result of Soviet city planning, for a city, which has lost half of its population.

2) Strategic role of citizens

Equal citizen and professional involvement in the workshop process.

3) Organisation of the work with citizens

Citizen involvement:

- Since the workshop is organised in a close community, consisting largely of non-professionals, although active and cooperative individuals, several key guidelines have been presented. These so-called guidelines have been previously prepared by professional urban designers, architects, scientists and even politicians in the form of

lectures and discussions. At this point the community already knows the professional opinion, and still can present their own point of view.

- Presentation of ideas comes in the form of "idea bank", which is anonymous, but is still available only to individuals who are participants of these presentations, explained in stage 1. This way the community member has the knowledge, understands the problems and possible solutions, and most importantly, limitations on what can or can't be done.
- Community elects ambassadors – usually the most active and respectful community members - to represent their opinions during the workshop, and to make sure, that the "idea bank" is respected during all the stages of the workshop. Elected ambassadors are divided into groups, to join the teams of professionals, to help them during the entire workshop process.

Professional involvement:

- Teams of workshop participants - professionals are selected according to their professional strengths, working with the communities is one of the key factors to be able to participate in this kind of workshop. A person/team member with this kind of knowledge – usually a sociologist - is considered to be a major advantage. Teams attend the same lectures and presentations to understand the specifics of the area in question and they are given time to evaluate the information.
- Teams of professionals are then united with the ambassadors of the community, they become team members, using the sociologist as a bridge between the professionals and the community.

The further usage of community members during the workshop process is left entirely to the team chemistry.

4) Processes of citizen input management

The case study shows three different paths that the teams took:

- Community is considered to be a client. Ambassadors are involved in the design during the whole process, from the idea generating and brainstorming, to the presentation. Ambassadors and the community become co-authors of the final blueprint. This gives strong motivation. The success, although, relies greatly on characters and individuals from the professional and community sides, whether they are willing to exchange ideas, cooperate, make compromises.
- Community representatives. Ambassadors are considered to be the source of analysis (e.g. SWAT), when they do not participate during the design process, or only maintain a role of protecting and explaining the suggestions of the "idea bank". They are later invited to evaluate final designs inside the group and express their opinion. This way of using the community allows greater influence of professionals, which maintains the top down approach, and helps the final blueprint to be more professional. The motivation in this case is highly questionable, but still has a lot of citizen involvement, especially during the first design stages.

- Community representatives. Ambassadors are paired together with professionals inside the group. These groups-inside the group provide their own concepts of design, which are then evaluated and the best ones are then developed. This model is similar to the first one but is not necessarily the most citizen involving one. The success of this collaboration highly depends on the communication abilities, chemistry between an ambassador and professional. It also creates rivalry and competition inside the group, which effects the motivation of other participants. Although this model has its flaws, it might lead to the best design, since several design ideas are presented inside the group, and the best one is developed.
- Each of these models, explained above, relies greatly on the sociologist – a person providing a dialogue between professionals and citizen representatives. It's a highly educational model, which provides the citizens with a better knowledge of the problems in their area (explained by professionals), and also helps architects and designers to get the feeling of local ways and ideas.

C. Insights from the case studies

The analysis of case studies allows to identify two key dimensions for organisation of engagement strategies leading to co-creation in urban planning into a typology. Both of these dimensions are based on the role of the citizens in the planning process. The first dimension is the level of professional aid that citizens get when participating in urban planning initiatives. It allows us to differentiate the engagement strategies according to the level of control provided to either citizens or specialists (e.g. architects, experts). The dimension is important due to information asymmetry which is apparent in urban planning. Urban planners and architects employ specific, technical knowledge in their work and this limits communication with citizens. In the traditional process of urban planning, this presented citizens with a choice to resist the planning proposal in initial phases or to remain in the process and participate according to the already set rules. The co-creational approach relies greatly on the support that citizens get when collaborating and participating in dialogues with professionals. The second dimension is the type of input provided by citizens. This dimension specifies if the citizens are only providing information necessary to make decisions or are fully involved in collaboration when developing future solutions for public spaces.

We will discuss different types of engagement strategies in more detail to provide guidelines on selecting the methods.

Consultation strategies. This type of engagement strategy focusses on the gathering of citizen feedback on suggested alternatives and solutions. It includes online and offline methods, such as: focus groups, surveys, meetings, e-petitions, advisory committees, visual preference surveys, creativity groups and demonstrations & transformations.

Involvement strategies. Involvement strategies are aimed at direct work with the citizens throughout the process. It ensures that citizen concerns are consistently considered. The methods include prototype testing, usability testing, idea generation with lead-users,

ethnography, emphatic design techniques, citizen experiences mapping, creativity groups, and walkability assessments.

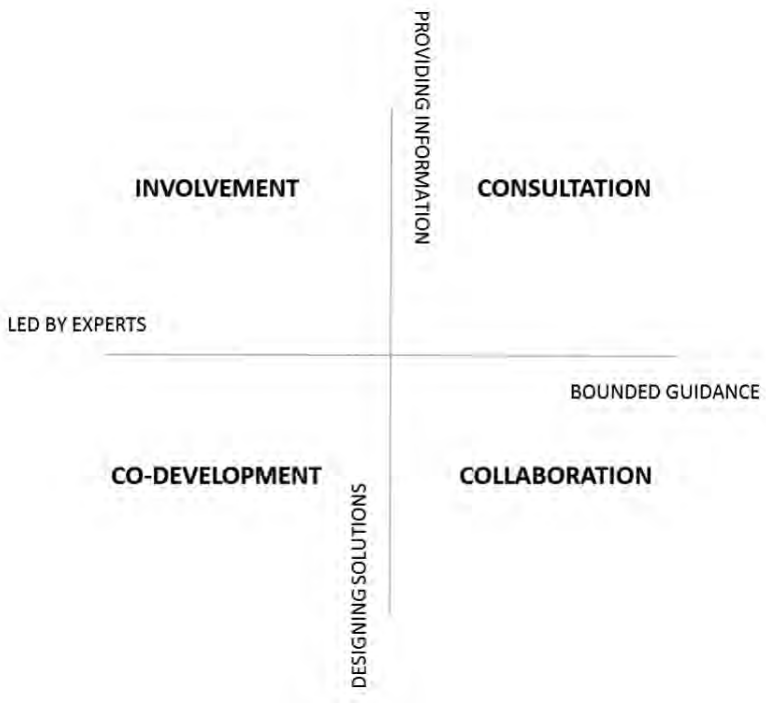

Fig 3. Framework for mapping the methods of citizen engagement strategies leading to co-creation in urban planning (developed by authors, 2016).

Collaboration strategies. The goal of this group of strategies is to partner with citizens and community in all aspects or urban planning. The methods include, but are not limited to, participatory design workshops, online citizen communities, living labs, innovation jams, participatory mapping, and idea banks.

Co-development strategies. The goal of this group of strategies is to partner with citizens and community in all aspects or urban planning. The methods include: wikiplanning, crowdsourcing contests and design thinking workshops.

IV. CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

Research literature on citizen engagement in the definition, creation and design of urban spaces is rapidly expanding, but it is still chaotic and needs more structure and more defined key concepts. The proposed typology allows analysis of engagement strategies based on two questions: what kind of input citizens are providing into planning process? And what kind of aid are citizens getting from professionals? This model serves us as a framework for mapping available methods of citizen engagement in urban planning. The

typology of engagement strategies could be useful for architects and public planners who seek more in-depth knowledge on innovative methods of involving citizens in urban planning. The proposed typology also can be useful in future research efforts on citizen engagement in urban planning's application of co-creation principles. Further research could be conducted on the motivation of citizens to participate in urban planning process.

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