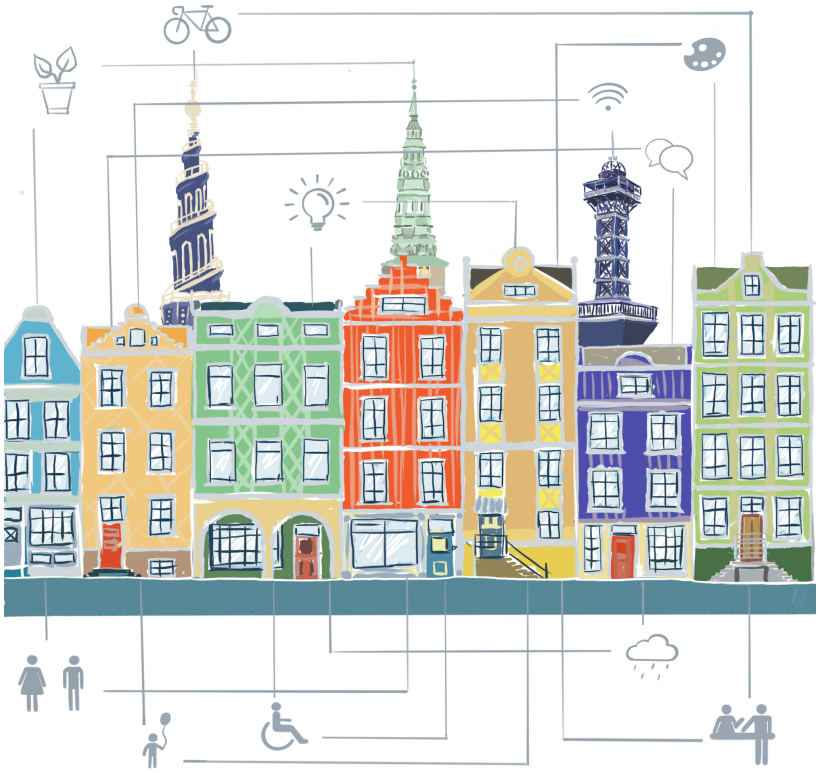
Achieving Liveable and Sustainable Urban Futures Through Collaborative Design

Exploration of Collaborative Practices in the Urban Design Scene of Copenhagen



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Flora and Karolina

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Abstract

The accelerating urbanisation and the growing contribution of the urban population to environmental damage exerted a substantial impact on the quality of living spaces in contemporary cities. Due to the high complexity of urbanisation challenges, governments and urban planners need to search for cross-cutting policies and tools that consider the social and cultural richness of the cities and direct urban development towards sustainable and liveable futures. The achievement of a sustainable change in urbanisation patterns necessitates a whole-of-the-society involvement that acknowledges the role of all urban stakeholders in shaping the cities of tomorrow. Design-driven urban innovation based on human-centred precepts holds the potential to facilitate inclusive urbanisation processes as well as their inclusive outcomes.

This study explores collaborative urban design practices exercised by organisations operating in the urban planning field in Copenhagen. The authors aim to identify the methods and approaches applied by a variety of professionals to leverage the collective power and resources of local communities when pursuing urban projects. Moreover, the intention of this thesis is to establish a list of collaborative urban design practices that lay the foundation for sustainable and liveable urban futures. The insights collected through nineteen lengthy interviews with top-level architects, designers, urban and environmental planners, and social scientists constitute the empirical base of this research.

Research results led to the construction of several assertions and propositions concerning collaborative urban design practices and approaches whose spreading and broad application is likely to benefit the futures of cities and condition their sustainable and liveable development. The authors suggest a three-dimensional conceptual approach to the core research inquiry and put forth a set of practices and efforts recommended for urban planners, architects and the entire collaborative urban design ecosystem; a list of practices believed to enhance the inputs and engagement of non-expert participants of collaborative urban projects; and a number of arguments advocating the substantial contribution of social science professionals to processes that implicate citizen participation.

Keywords: participatory design, collaborative commons, network society, co-creation, urban design thinking, human-centred design, citizen involvement, engagement tools, urban assemblage, institutional work, liveability, sustainable futures, scenario-based planning, backcasting

Chapter 1: Introduction

> There is a fantastic sparkling creativity in society, which neither professionals, nor urban planners, nor public employees have the fantasy to imagine on their own. […] Citizens are experts of their own life. So we need to work together to face the new challenges in front of us.
>
> -Camilla van Deurs[1], *Co-Create Copenhagen, 2019*

1.1 Relevance and Purpose of the Study

Today, the urban population constitutes 55% of the total global population and the growing trend is anticipated to persist (United Nations Population Division, 2018). By 2050, with the urban population increasing more than twofold from its present-day size, 68% of the total population will reside in urban environments. It is estimated that 80% of the global GDP is generated in urban areas (The World Bank, 2019) which implies a great economic power of cities. The prevailing view is that urbanization can contribute to sustainable growth if cultivated well, by fostering productivity and enabling innovation.

One of the most significant discussions currently taking place in the field of urban planning is how to face the challenges of rapid urbanization. Its speed and scale urge decision-makers and urban planners to cope with issues such as accelerated demand for affordable housing, congestion, poverty, as well as the need for well-connected transportation systems and adequate infrastructures. Apart from fast-paced growth, cities are required to address the adverse effects of climate changes, as they account for nearly two-thirds of the global energy consumption and are responsible for more than 70% of the world's greenhouse gas emissions. The swift urbanization also implies that many cities are exposed to a greater risk of environmental disasters. Globally, nearly half a billion citizens live in coastal areas, thus the climate change-related problems such as the rise of the sea level and the storm surges infer their greater vulnerability.

Copenhagen is also exposed to a greater risk of floods due to cloudbursts and the accelerating sea-level rise. Consequently, climate change became a high-priority topic in the City of Copenhagen. The Danish capital aspires to be the first carbon-neutral city in the world by 2025 (Technical and Environmental Administration, 2009).

[1]Camilla van Deurs is a partner and a director at Gehl Architects and holds the position of the City Architect for the City of Copenhagen from the 1st of February 2019 (Søholt, 2019).

Copenhagen strives to be a forerunner among the cities worldwide regarding steps taken to act upon climate change and establish preventive mechanisms against rainstorms, storm surges, coastal floods and heatwaves - as they are classified as the most serious climate risks (C40 Cities, 2016). Being an active member of C40 Cities[2], Copenhagen is delegated to hosts the C40 World Mayors Summit in the last quarter of the current year.

It is now when national and local governments seek tools and methods that will enable them to shape better urban futures. To lay the foundations for inclusive, safe and resilient cities of tomorrow, they need to engrave the qualities of sustainability and foster local particularities in the emerging urban areas. The achievement of such goals demands the establishment of well-coordinated policies, mindful investment choices and the consideration of liveability and environmental-, social-, and economic sustainability in future urban projects. As the physical form of a city and its land-use patterns might be locked in for generations, the urban planning field constitutes one of the expedients with the greatest potential to design liveable and sustainable futures for next generations. Urban liveability is a major area of interest within the discourse of sustainability and urban planning and it is intertwined with such concepts as urban design thinking and human-centred design, which are at the heart of our understanding of urban futures.

The purpose of this thesis is to contribute to the emerging current of research on collaborative urban design and the closely connected fields, such as participatory design, citizen involvement, citizen engagement and co-creation. The authors aspire to widen the pool of collective knowledge on state-of-the-art urban design approaches and practices available for urban planners and authorities to pursue collaborative projects in the future. The research results draw on insights from experts of different profiles, ranging from top-level architects and designers to philanthropic change agents and social scientists based in Copenhagen. By considering the multiplicity of professional perspectives on collaborative urban design, the research attempts to provide a set of broadly applicable recommendations that could facilitate the shaping of liveable and sustainable cities of tomorrow.

[2] More than 700 million citizens and one-quarter of the global economy are represented by the mayors of C40 cities. C40 cities are committed to delivering on the most ambitious goals of the Paris Agreement in their cities (C40 Cities Climate Leadership Group, 2019).

1.2 Research Question

As implied in the title of the thesis, this research takes a futuristic perspective on collaborative urbanism. By uncovering the practices and approaches to urban planning that dominate among Danish actors and organisations, the authors anticipate identifying the emerging dynamics and best practices that could lead to better futures of cities in terms of sustainability, liveability and equality. Therefore, the central question of this thesis asks:

> What practices and efforts in the field of collaborative urban design hold the potential to benefit the futures of cities?

In order to answer the main research question in a comprehensive manner, the study addresses three sub-questions which narrow down the broad focus of the key question. In particular, the following sub-questions are examined in the thesis:

> Sub-question 1: How urban planners and designers can advance the way they co-create?
>
> Sub-question 2: How could the inputs of non-expert participants be improved?
>
> Sub-question 3: What is the contribution of social scientists to collaborative urban planning?

1.3 Delimitation of Scope

This thesis project provided an exciting challenge and opportunity to advance the understanding of the current situation on the collaborative urban design scene in Copenhagen. The choice of scope was backed by the personal proximity of the authors to the Copenhagen context, nonetheless, certain facts make the city a perfect choice for the exploratory research on collaborative urbanism. In 2018, Copenhagen was granted with the title of the second most liveable city in Europe (The Economist Intelligence Unit, 2018). In 2014, the Danish capital was acknowledged as European Green Capital of the year in terms of the quality and sustainability of urban planning and design (European Commission, n.d.-a). The award highlighted the public-private partnership focus of the city and the efforts to utilize “a whole-of-society collaboration” (Ministry of Foreign Affairs of Denmark, 2015) when innovating urban spaces. Besides, Copenhagen set an ambitious goal of becoming the first carbon-

neutral city in the world by 2025 and made Copenhageners - and their everyday actions - an indispensable part of the solution towards that goal (Technical and Environmental Administration, 2009).

Copenhagen is proud of its holistic approach to urban and spatial planning and design that hinges on the involvement of a broad spectrum of actors in the processes. The Architecture Policy of the City of Copenhagen (City of Copenhagen, 2010) recognizes the facilitation of the dialogue between experts, authorities and the citizens as its main objective and the panacea to creating "an economically, environmentally and socially sustainable city" (p. 5). The Danish approach to solving the problems of urbanism is often described as bottom-up and societal-need-driven (Ministry of Foreign Affairs of Denmark, 2015). It is also worth noting that the government of Denmark was the first in the world to launch the nation-wide design policy at the end of the 90s, which influenced the current status of the Danish society recognised as design-driven (Ministry of Foreign Affairs of Denmark, 2015). Human-centred design that goes beyond pure aesthetics is an integrated part of a substantial number of built environment projects realized across Denmark. Furthermore, Copenhagen is the hometown of Jan Gehl, a globally recognizable architect and urban planner responsible for the transformation of the capital of Denmark into one of the most liveable cities worldwide. Throughout his career, Gehl has been devoted to justifying the utility of social sciences in urban design practices and propagating the exploration of the human side of architecture.

Since many urban initiatives within Copenhagen aim to engage the broad public and give the citizens a sense of co-ownership over the urban space, as well as a sense of responsibility for the future of the city, the authors considered the city as an ideal arena for exploring collaborative urban design practices among a broad range of professionals concerned with urban design projects.

1.4 Structure of the Paper

This thesis is divided into six chapters. The first introductory chapter presents the core theme of the study and its purpose, along with highlighting the research question and sub-questions, providing the synopsis of the research design and justifying the delimitation of the research scope. Chapter two encompasses the theoretical framework of the research. It begins with a comprehensive overview of the history of urban planning and presents the dynamic negotiations between power structures and civil society occurring over time which set up the roots of collaborative planning practices. Expanding on the history, the merits of the open society are

displayed. This part of theoretical elaborations comprises of the tools and governance approaches that enable broad participation of citizens in shaping the urban life and contribute to the blossoming of transparent democracy. The following section expands on the theme of urban dynamics and elaborates on the concepts of urban assemblage, institutionalist approach to urban dynamics, urban design thinking and co-creation in the urban context. The last theoretical section covers considerations about the futures of cities and touches upon the topics of urban liveability, sustainability and technological advancements that could foster collaboration in future urban projects.

The third chapter of the thesis presents the methodological choices made by the authors concerning the theoretical approach to social science research, selection of participants, form of empirical research, data analysis method and secondary data sources. Chapter four exhibits and compares the findings from empirical research. The presentation of findings is based on the categories and codes obtained through the data analysis process. This chapter is supplemented by the table which encapsulates the key insights collected from the empirical research. Chapter five discusses the key findings by drawing on both the theoretical concepts included in chapter two and empirical categories laid down in chapter four. Finally, the conclusion gives a brief summary of the research, as well as acknowledges its key limitations and proposes areas for further studies.

Chapter 2: Theoretical Framing

> Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody.
>
> -Jane Jacobs, *The Death and Life of Great American Cities, 1961*

The following chapter sets the theoretical frame for the thesis and is divided into four main parts. The first part provides a chronological account of the evolution of collaborative urban design. It includes three subsections which give an overview of the emergence of centralised planning, the rise and the fall of Modernism, and the upturn of collaborative design, respectively. Particularly, the subsections touch upon the problems of how to control people inside the "walls" of the city, how to design cities for people and how to include people in urban design. The second part is centred around the social context in which collaborative design proliferates and gives an account of the merits of open society, including the rise of wiki culture that fosters connections between people, creation of spaces for collective actions and self-organisation, the strengthening of network society and related empowerment, as well as the value of peer-to-peer and collaborative commons. The third part conceptualizes the complex theme of urban dynamics. The starting subsection elaborates on the comprehension of cities as assemblages and the institutionalist approach to understanding collaborative urbanism. Next, the notion of urban design thinking and the role of social sciences in urban design are described, which sets the tone for the last subsection which focuses on co-creation and its components. The fourth part of theoretical considerations deals with the futures of cities and elaborates on the concepts of urban liveability and sustainability, as well as technological advancements that could potentially influence the future of collaborative urban planning.

A variety of terms analogous to the key concept of this thesis, meaning 'collaborative urban design', have been found in the literature. First of all, the term 'collaborative placemaking' is occasionally used in the thesis which reflects a wider context of collaborative urbanism, as placemaking stands for a "set of social, political and material processes by which people iteratively create and recreate the experienced geographies in which they live" (Pierce, J., Martin, D. G. & Murphy, J. T., 2011, p. 54). Ermacora and Bullivant (2016) used the term 'participatory placemaking' (p. 67) and 'collaborative placemaking' (p. 96) interchangeably in their work. The similar notion of 'collaborative planning' is substitutable with 'communicative planning' and refers to urban

planning practices that invite stakeholders and engage them in a discourse where all positions of participants are respected and the involved parties make decisions together (Healey, 1997). Mayer, van Bueren, Bots and van de Voort (2005), in turn, talk about 'collaborative' or 'participatory approaches' to urban planning and decision making which ensure that all voices of various stakeholders are heard and managed, and result with decisions that integrate the inputs of all relevant stakeholders. Furthermore, 'collaborative knowledge construction' (Van Aalst, 2009) is the term frequently used for reporting the cognitive processes of learners in collaborative projects.

This paper will primarily apply the term 'collaborative urban design' as it amalgamates the two important concepts of placemaking and collaborative planning. Collaborative urban design stands for the means towards democratic involvement of different stakeholders in the urban development processes (Steinø, Benbih & Obeling, 2013). Co-creation is another term frequently used in the thesis and regarding its definition, no consensus has been reached but the explanation of some of the interpretations are included in this chapter.

2.1 Historical Review of Urban Design

> To have real significance, liveable urbanism needs to build social capital, to reflect an egalitarian spirit of open city, and to apply inclusive planning processes that foster a greater sense of ownership and self-determination.
>
> -Thomas Ermacora and Lucy Bullivant, *Recoded City: Co-Creating Urban Futures,* 2016

The aim of the following section is to introduce the evolution of placemaking and to inaugurate the communicative planning theory as the base of collaborative planning practices (Healey, 1997). To understand the nature of bottom-up placemaking activities and their social power, it is necessary to get acquainted with critical transformations of control structures and governance approaches that have occurred over time. Examining the changing alliance between agency and structure and their impact on the dominant form of urbanism helps to comprehend the roots of the collaborative approach to urban planning and built environment projects.

2.1.1 From the Genesis of Cities to Centralised Planning

In the ancient era, grandiose constructions of pyramids were led by noble master builders, who were of high social status, honoured by the ruler and the public, like Imhotep, whose name was preserved for the construction of a stepped pyramid built for King Zoser of Dynasty III (Nuttgens, 1983). Master builders were often taken into the confidence of the ruler and entrusted with the advisory role. Besides, they exercised strong power over the workers and their expertise and talent were the main driving forces behind construction projects. In ancient times, architecture was one of the means - along with arts, literature, and ceremonies - to represent the magnitude of the emperor (Ermacora & Bullivant, 2016).

After the downfall of the Roman Empire and the societal fragmentation, Western Europe was mostly populated by small-scale, self-sufficient economic units. Groups of people were functioning as separate social units, nonetheless, apart from producing for the local needs, they were exchanging goods and ideas between one another (Risebero, 1979). These units were often organized around Christian monasteries, which served as the vanguards of civilization (Ermacora & Bullivant, 2016). In the medieval era, the noble class was granted with fiefs from the kings and lords, so they could manage the agricultural activities on the land, as well as provide protection to agricultural labourers. Feudalism was the ruling structure in Western Europe and the Catholic Church embodied the universal institution which performed a multitude of functions, being the governor, as well as the cultural and spiritual guide for the people (Risebero, 1979). The construction of prominent religious buildings served as the demonstration of both the spiritual and political power. The "theological and spatial precepts" (Ermacora & Bullivant, 2016, p. 19) of the Church gave the foundation for the new top-down spatial planning[3] approach which aimed to provide structure to communities.

In the cities and towns surrounded by protective walls, merchants and craftsmen occupied manifold positions, such as skilled workmen, employers, supervisors of apprentices, purchasers of materials and sellers of crafted products (Ermacora & Bullivant, 2016). The proliferation of craft guilds and their commercial expansion led to class-based differentiation within the crafts and triggered the establishment of strict rules regulating the organisation of work. Consequently, people belonging to lower classes, excluded from the system, tended to search for space for practising their crafts outside the towns so as to avoid the restrictive regulations. This fragmented societal structure constituted the base of the early industrial system (Ermacora & Bullivant, 2016).

[3] Empowering the role of technical experts, de-politicizing decision making and the tendency to centralism were marked as a top-down approach to planning (Healey, McDougall, & Thomas, 1982).

The architectural language dominating in European cities throughout the Renaissance period was inspired by the practices of ancient civilizations. The merchants became the new ruler class. Earlier in history, in the feudal times, this position was occupied by nobles (Nuttgens, 1983). Trading and banking became significant sectors dominating in the cities and fundamental urban functions of commerce, power and health were separated in space. Accordingly, Italian architecture practitioners devoted specific living quarters to groups of different social statuses (Ermacora & Bullivant, 2016). The urban development concepts of Florentine, following the aspirations of Lorenzo de Medici, had a great influence on the evolution of other cities. The high social status of architects in the 17th century was especially visible in the French court and England, where architects were often granted with a special title from the king, being considered civil servants or 'Royal Surveyor' (Nuttgens, 1983). The manner in which space was formulated reflected the authority of experts which resulted in the development of cities organised according to masterplans. Urban space and architectural constructions were intended to feature "the glory of a man at the centre of the universe" (Ermacora & Bullivant, 2016, p. 20), which set a milestone in the history of spatial planning context.

The centralized, top-down urban planning and commissioning of architecture, that is the prevailing planning practice now, was born in the Renaissance. Ermacora and Bullivant (2016) claim that this approach is widely applied throughout the world today and despite many changes - which are going to be elaborated in the following sections - the modern man still lives in the times of "bureaucratically controlled spatial development" (p. 22).

2.1.2 Modernism

a. From centralised planning to Modernism

The Industrial Revolution geared up urban development and put an even greater emphasis on technology. The phenomenon of the Industrial Revolution was cradled in Britain and was only termed as 'Revolution' retrospectively in the nineteenth century (Nuttgens, 1983). The number and the size of the cities multiplied, along with the growth of the population, which led to the emergence of the "new urban society" (p. 240). This trend triggered the establishment of many remote living areas, which grew informally, as top-down instructions were inefficient and no longer possible in the rapidly expanding urban context (Ermacora & Bullivant, 2016).

The fast-paced expansion of cities, favoured by the ethos of the Industrial Revolution, brought changes to urban design practices. The rapid development of cities was related to both spatial and population growth, which made the planners and architects lose their absolute power in planning processes, along with the control on the characteristics that the city should embody. The escalation in the value of land forced the developers to construct higher buildings in the rapidly growing city centres (Risebero, 1979). By the end of the 19th century, some contradictions of capitalism became more tangible which intensified the problems of criminalisation, epidemics, overpopulation, overheated workplaces and poor housing conditions in the cities (Ermacora & Bullivant, 2016). The ever-growing gap between the wealthy and the indigent caused wide-ranging social disappointment.

Urban planners needed to tackle the aforementioned problems and offset the disadvantages of rapid urbanisation with radical changes in planning practices. The first congress of Modernist urban planners (CIAM - Congrès Internationaux d'Architecture Moderne) was held in 1928 and attended by twenty-four European architects who declared the urge to "place architecture in a wider economic and social context, as well as advocated [for] a standardized form of construction that could be easily replicated" (Molinari, 2015, p. 117). One of the manifestations of the Modernist aspirations for uniformness is Plan Voisin[4] designed by Le Corbusier, in which the building blocks surmounted the view and the life of the city (Ermacora & Bullivant, 2016). Le Corbusier aimed to find the 'ideal order' and to ignore extrinsic pressure or opposition of all sorts. By the late 1920s, extremely rigorous plans for city building in accordance with the proposal of Le Corbusier spread in Europe (Brown, Dixon & Gillham, 2014). Aspirations that proliferated in the early 20th century resulted in the growing popularity of the technocratic, objective and scientific approach to urban planning, based on ratios and other quantitative metrics.

As the aftermath of the World War II and the Cold War, there arose a polarisation among various urban actors - community organisations, planners and policymakers - with respect to the topics such as creation and characteristics of public urban spaces (Ermacora & Bullivant, 2016). Modernism was on the rise and the decision-makers were willing to rely on the utopian urban plans of recasting cities. Cities were still expanding at the same pace as it was experienced during the Industrial Revolution, exploiting spaces with industrial and housing facilities, as well as suburban railways and central roads, which reached also the remote countryside areas

[4] Plan Voisin (1925) of Le Corbusier shocked the French architectural establishment by razing a large swath of central Paris. The plan aspired to build residential buildings and massive office towers connected by motorways. The project of Le Corbusier "reflected a model that swept modernist architectural circles in Europe during the 1920s and ultimately shaped American thinking about urban renewal in the 1940s and '50s" (Brown et al., 2009, p. 56).

(Risebero, 1979). Due to an increased density of inhabitants in the city centres and the scarcity of lands, people began to express interest in cheaper rural lands and utilize wasteland for housing projects. In France, for example, urbanisation led to the emergence of peri-urbanisation[5] in the 1950s. These phenomena spawned the development of cities lacking centres, which were absolutely dependent on the flow of residents, and triggered the 'root shock'[6] effect among the urban population.

b. The fall of Modernism

Opposing the viewpoint of the modernist thinkers, Reyner Banham (1962) questioned the moral authority assigned to architects:

> The gravest of all doubts was whether - or how - architects could continue to sustain their traditional role as form-givers, creators and controllers of human environments. On the one hand were those who condemned the role as elitism; there grew up a kind of environmental populism, a demand for participation by the public, for the right of people to determine their own environments - all of which was not so totally unlike the ever-present concept of the modern architect as the humble servant of social need. (Banham, 1962, p. 5)

In his book *Age of the Masters*, Banham (1962) asserted that an alternative to the elitist, modernist approach can be the megastructure, which is based on the "vision of a vast monumental framework of structure, transportation and services, within which individuals or groups or whole communities could contrive their own environments" (p. 6). These exemplify attempts "to reconcile the irreconcilable: the freedom of the individual and the mastery of architecture" (p. 6). Banham assumed that architecture is more than "a commentary of the human condition" (p. 3) but it rather constitutes the human condition itself, thus it should be adjusted to times and social changes.

Many cities, including Mexico City, faced serious problems related to their fast-paced growth from the 1960s onwards. Mexico City experienced the spread of slums areas, such as Neza-Chalco-Itza, which is one of the world's most populous slums. Neza-Chalco-Itza started to expand at the dawn of the 20th century, when the well-prospering railroad brought into the city a new industry, together with new inhabitants. The territory was

[5] The notion of peri-urbanisation or 'dormitory towns' embodies the phenomenon of swiftly built housing infrastructure, mainly for industrial workers, that formed "[a] part of a rural exodus which was deserted by day" (Ermacora & Bullivant, 2016, p. 23).
[6] The Root shock effect is defined as the traumatic stress answer to the demolition of the whole or part of one's emotional ecosystem (Fullilove, 2005).

expected to accommodate the railway workers but soon became a segmented part of the city. By the 1960s close to half of the population of Mexico City lived in slums (Perlman, 1980).

After World War II, until 1991, in the Cold War period, the Modernist planners were ruling the urban planning. Throughout that short period of time, they gained substantial recognition to later on fall due to bureaucracy, corruptions, and globalisation-related crises that many cities had experienced (Ermacora & Bullivant, 2016). Starting in the 1960s, city governments attempted to change their urban redevelopment approaches and expressed more appreciation to existing urban neighbourhoods (Brown et al., 2009). From the 1970s, as a result of the oil price shocks, cities began to focus more on mass transportation means as an alternative to car infrastructure. Under those circumstances, a new narrative of 'the revolt of the grassroot' (Platt, 2015) was born, as it was described by the urban environmental historian Harold Platt. This new narrative embodied renovation projects of historic neighbourhoods and central multi-blocks, using state funds (Brown et al., 2009).

At the end of the 1960s, media was accused of becoming the instrument of politicians to spread propaganda, obscure real conversations, damage democratic values and create systemic biases (McLuhan & Fiore, 1967). This was the time of the advent of the mass media, which was coined as 'the fifth power' and was fought against by the civil rights movement rejecting the manipulative discourses of established powers (Chomsky & Hermann, 1988). The members of academia promoted the ideal of intellectual freedom.

2.1.3 The Upturn of Collaborative Urban Design

a. Ownership of cities - from civil rights movements to current days

The enthusiasm for the planned city concept dominating in the 20th century was replaced by the realisation of the "city as a self-organizing system" (Tan, 2017, p. 6). Ermacora and Bullivant (2016) argue that the idea of 'community organising' originates from the late 1930s and has started with the American 'settlement houses'. In the 1960s the civil rights movement brought greater attention to the public realm and to the urban public spaces as the emergence of suburbs raised questions about the possible futures of cities as human settlements (Brown et al., 2009). The aspiration behind the movements was a societal change towards more egalitarian and inclusive social structures (Ermacora & Bullivant, 2016). The social rights movements focused substantially on the swelling difference between the technocratic approach of the experts and the real needs of the citizens. There was an unmet need to alter the compliant, unitary manner in which the Modernists imagined the future

of cities, to devote more attention to the physical needs of the citizens and to give them ownership over urban spaces.

The essence of the collaborative approach to urban design is founded upon the activism of urban design experts. Three books set the milestone in the history of urban planning: The Death and Life of Great American Cities by Jane Jacobs, Image of the City by Kevin Lynch, and Pattern Language by Christopher Alexander (Brown et al., 2009). All of the abovementioned publications contributed to the popularity of the novel approach to urban design, focused on the quality and unique character of larger urban units, such as neighbourhoods and districts.

In the book The Death and Life of Great American Cities[7] (1961), Jacobs condemned the top-down attitude to urban planning, formulated sharp critiques of the ruling class that ignores the needs of the people, and held it responsible for the decline of cities. According to Jacobs, cities need to be characterised by economic and social diversity in order to thrive, stating that the development of high-rises and highways, to accomplish slum clearance, undermines the real values of cities. She put emphasis on the value of social networks in the urban context and assumed that social relations have a major impact on the productivity of people (Putnam, 2000). On the word of Putnam (2000), the social capital theory embodies the networks and the norms of reciprocity and trustworthiness, that emerge as a result of the connections formed between individuals. Thus, socially isolated people might not be able to take advantage of the merits of social capital. Primarily, productivity is expected to rise with the increase in the number of social ties, nonetheless even a poorly-connected person is able to benefit from the spill over effect when being physically located in a well-connected community.

The plans for a large-scale development project of New York in the first half of the 20th century were initiated by Robert Moses and aimed to boost the modernisation of cities (Ermacora & Bullivant, 2016). The newly introduced vision of sizeable urban spaces influenced the planners worldwide and contributed to the devotion of cities for cars. Certain services became available only by car and many streets were left unused, which made them lose their social values. Moreover, rigorous functional fragmentation of the city resulted in monocultural uses of spaces. The practice of zoning urban land was very common in many places at that point in time and was aimed at keeping the disadvantaged social groups off the enticing, recently developed suburban areas.

The present attitude to urban design was shaped mainly during the 1980s and 1990s as an outcome of urban renewal projects and bridged the gap between urban economics and human scale (Brown et al., 2009). As a

[7] The seminal work of Jacobs is further discussed in the subsection on Urban Design Thinking (2.3.4).

response to the heavy influence of the work of Robert Moses, Jan Gehl interfered with the way planners relied solely on analytical data and commenced to generate new data sets related to the activity patterns of the citizens (Ermacora & Bullivant, 2016). The new approach to the data of the urban living built bridges between social scientists, architects and urban planners. Such progress in urban planning enabled architects to understand, explore and leverage the interrelationship of the physical environment and the public life, and sparked the philosophy of designing public spaces for people by considering how they use and experience the city (Gehl, 2010).

b. Calling welfare into question

Karl Marx claimed that the social costs of industrial developments, that surge by the reason of profit maximization practices of capitalist investors, exploit the labour and dismantled resources (Giddens, 1987; Kitching, 1988; Healey, 1997). Marx asserted that "periodically there would be a crisis of over-production, goods would remain unsold, and cut-backs and layoffs would follow, further reducing society's spending power and creating a spiral of decline" (Risebero, 1979, p. 267).

Maynard Keynes argued that governments are responsible for the protection of public goods, thus certain state interventions are necessary to overcome inequalities in the distribution of wealth (Ermacora & Bullivant, 2016). In his book *The General Theory of Employment, Interest and Money* (1936), Keynes recognized that an enlarged public sector is able to prevent crisis (Brown et al., 2009; Risebero, 1979). The Keynesian theory assigned greater responsibility to the government for maintaining social welfare (Risebero, 1979). This current of economic thought strengthened the role of centralised, top-down urban planning (Ermacora & Bullivant, 2016).

Although global capital could facilitate large-scale investments worldwide, there might appear a problem with the ignorance of the consequences of such investments in the local context (Ermacora & Bullivant, 2016). The commodification of public spaces favours profit-oriented spatial developments, which fail to consider the actual needs of local people inhabiting those spaces. Global land speculators tend to express little interest in the locality of a place as their connection with its history is often insignificant. It implies that their sense of ownership and responsibility towards the place is very limited, which intensifies the ignorant approach to the local contexts and the needs of local people when pursuing urban projects.

In the international context, the political ideology of Margaret Thatcher in Britain and Ronald Reagan in the USA, which aspired to reduce the role of bureaucracy and minimize constraints that hinder innovation and adaptation,

further fragmented society and excluded those with less financial power (Ermacora & Bullivant, 2016; Healey, 1997). The urban and spatial environment were particularly affected by the liberal ideas that promoted privatization and deregulation over planning for the public (Healey, 1997). The easement in those ideological movements commenced with the fall of the Berlin wall in 1989 and provided room for the development of more socially inclusive urban planning.

In 2001, the first World Social Forum took place in Porto Alegre, in Brazil, to facilitate a discussion between a larger selection of social groups, including the representatives of the previously neglected ones (WSF Charter of Principles, 2001). For instance, for the first time, the voice of Latin American peasants was heard and considered by authorities. The peasants claimed that political institutions denied their right to adequate living conditions and expressed the urge to engage in saving the Amazon rainforest from exploitation. The Forum and a multitude of subsequent events drew attention to anti-globalisation movements, which were promoted by the media, and resulted with the establishment of a large number of institutions set up for the poor, which promoted alternative ways of governance, such as the Grameen Bank (Ermacora & Bullivant, 2016). These new organisational forms triggered the emergence of new norms in urban planning as well.

c. Aspirations for better cities and new governance models

Numerous sociologists, planners and architects opposed the values and precepts of Modernism and the activity of the International Congress of Modern Architecture (CIAM), including Kevin Lynch, Jan Gehl, and William Whyte. The opinions of these experts are consonant with the manifesto of Allan Jacobs and Donald Appleyard (LeGates & Stout, 2011). In the 1990s, Jacobs and Appleyard (1987) published a comprehensive list of the problems of modern urban design in the *Urban Design Manifesto*. As the most imperative issues the list highlights "poor living environments, giantism and loss of control, large-scale privatization and the loss of public life, centrifugal fragmentation, destruction of valued places, placelessness, injustice, and rootless professionalism" (p. 114). Additionally, in their elaboration on modern urban design, Jacobs and Appleyard considered what the goals of urban life should be. They emphasized "liveability, identity and control, access to opportunities, imagination and joy, authenticity and meaning, community and public life, urban self-reliance, an environment for all" (p. 115).

To address the enlisted problems, the authors offered a solution that could help to "fabric" cities for people and "encourage [the development of] a livable urban environment" (Jacobs & Appleyard, 1987, p. 117). They assumed

that the creation of a liveable city requires the presence of five essential elements: a minimum density (number of people); integration of activities ("living, working, and shopping as well as public, spiritual, and recreational activities - reasonably near each other") (p. 118.); arrangement of buildings that defines and encloses public spaces; public places for pedestrians and public ways; and the presence of "many different buildings and spaces with complex arrangements and relationships" (p. 118). Jacobs and Appleyard emphasized the importance of public participation in the process of creation of both spaces and buildings: "It is through this involvement in the creation and management of their city that citizens are most likely to identify with it and, conversely, to enhance their own sense of identity and control"(p. 120).

In the 21st century, the traditional ways of urban planning have been called into question. The top-down approach and mega-planning forms of urban projects have proved to be inefficient in satisfying the needs of people for self-governance. Centralised planning practices created a significant gap between the plans and the real needs of society (Ermacora & Bullivant, 2016). By focusing merely on financial returns on investments, large national and international corporations contributed substantially to the proliferation of urban projects disconnected from the interests and requirements of local communities. Indeed, urban endeavours giving no attention to the people play a relevant role in "packaging and marketing of products in space for consumer consumption, with less interest in the meaning of functionality of individual communities" (Kasprisin, 2011, p. 18).

Sørensen and Torfing (2018, p. 388) assert that "multi-actor collaboration" can become a widely applicable approach to innovation in the public sector. To innovate in the public context, not only the exclusive engagement of public stakeholders is required, but also collaboration among them, and with private stakeholders (Ansell & Torfing, 2014; Hartley, 2005; Sørensen & Torfing, 2011). The widespread problem is, however, related to the fact that urban planning legislation has been invariably developed in the time-restricted political context, therefore the goals of urban developers and authorities accountable for city planning decisions are often determined by the short time span of a political mandate (Ermacora & Bullivant, 2016).

Nowadays, the pursuit of spectacular urban projects that provide instant growth often implies recession and disregard towards the long-term consequences and related social impact. Ermacora and Bullivant (2016) further argue that both new and old regimes struggle to react adequately to the emerging needs and are unable to reduce the inequality in wealth distribution. New regimes prioritise economic growth at the expense of social protection and global speculative investments often lead to developments which fail to answer the local needs

of urban spaces (Ermacora & Bullivant, 2016). Governance systems often experience the problems caused by the rigid bureaucratic structures and rules, which effectively stop politicians and decision-makers from following the new trends and needs in urban planning practices, and make them act according to outdated, traditional patterns. Thus, it is crucial to differentiate between the placemakers driven by profit and those who plan for the long-term values and invest for the liveable and sustainable urban futures.

Delman (2011) claims that an urban space should be seen as a "work in progress" (p. 12). This concept reflects the opposing interests of diverse stakeholders present in the city context, which must be represented simultaneously. On the word of Delman, "the city should be seen as a collaborative work" (p. 12). The foundation of collaboration might be found in the cultural diversity of urban space. Moreover, collaborative urban planning approach recognizes and accepts that no univocal answer to urban problems exists.

2.2 The Merits of Open Society

> A people ought to fight for the laws of the city as if they were its walls.
>
> -Karl R. Popper, *The Open Society and Its Enemies, 1945*

The notion of 'open society' embodies the idea that each and every individual has the freedom to fully participate in economic, cultural and civil life, which is strengthened through education, the development of independent media outlets, public health services, and via legislation (Ermacora & Bullivant, 2016). This requires governments to establish solid structures for a transparent and tolerant democratic system that protects the fundamental human rights of the citizens. Simultaneously, the members of such an open system are demanded to attentively and actively respond to the rapidly unfolding challenges of the present-times. Such responsibility of citizens which calls for creativity and progress was coined by Henri Bergson as 'open morality' (Ermacora & Bullivant, 2016, p. 34).

In the lecture *The Demons of an Open Society* Zygmunt Bauman (2005) put emphasis on the need for global action towards securing the democratic notions against the traditional top-down governance and the influence of elected authorities and experts who make use of hermetically stored data. Such an approach seems obsolete in the age of globalisation-driven issues and in the times when the ability of the state to cope with the protection

of social interests remains under question. As Bauman (2005) framed it "on a planet open to free circulation of capitals and commodities, whatever happens in one place has a bearing on how people of all other places live. No well-being of one place is innocent of the misery of another". Indeed, new tools and new governance approaches are needed to deal with the complexity of today's world and conquer the most imperative problems. Some of the tools and concepts that could address the Bauman's challenge are presented below.

2.2.1 Wiki Culture

The wiki is considered a Web 2.0 technology and as an online gender arrived perhaps with the introduction of Ward Cunningham's WikiWikiWeb, which "enabled anyone to play, contribute, modify and collaborate with others" (Ermacora & Bullivant, 2016, p. 35). The value of wiki is grounded in social interactions and the technology itself became a part of a global cultural shift. The wiki and related softwares facilitate multi-actor learning, sharing, collaborating and synthesizing of a multitude of ideas (Twu, 2009). To put it another way, the wiki technology creates the ecosystem of Internet-based networks and activities, which both accommodates and brings together diverging viewpoints and cultures (Ermacora & Bullivant, 2016).

Talking about the wiki requires the mentioning of open source, which is a movement that promotes freely-available software that can be altered and shared between different actors. The speed at which open-source protocols have been diffusing carries forward the expectation that many conventional practices are going to be replaced by such a solution in the near future. Open society allied with open source, as well as the Internet of Things (IoT), provides an "always-on time-shifted experience merging the physical and virtual worlds through digital networks, available in many parts of the globe" (Ermacora & Bullivant, 2016, p. 36). Another crucial distinguishing feature of open society - entangled with open source - is its incremental definition and hybridization of expertise that it enables, meaning that even though experts and individuals willing to contribute to certain work (run perhaps through an online platform) might overrun the process, the outputs or contents might still be challenged by any individual at any time. This constitutes the basis of 'responsible and shared contribution' (p. 36) of people in an open societal system but also brings the challenge of balancing differentiated inputs of multiple individuals.

2.2.2 Spaces for Self-Organisation

Apart from technology-driven sharing practices and novel legal collaboration frameworks, we are now observing the blossom of the 'self-made' concept. Self-organisation became a major theme in the 60s when various alternative social groups were striving for "creative participation in consumer culture" (Ermacora & Bullivant, 2016, p. 37). While this phenomenon was considered hippie or hyper-liberal that time, it is now becoming a standard, being reinforced by an increasingly popular do-it-yourself (DIY) movement. DIY has its position in two different spots within the social spectrum. Firstly, it is being utilized by somehow resourceless communities which can benefit from the access to technology or materials that DIY provides. Secondly, it became a way of expressing the self of individuals and their unique lifestyles (Ermacora & Bullivant, 2016).

Nonetheless, DIY culture does not only revolve around affordability and accessibility of solutions but is also the means of hacking and tinkering, thinking out-of-the-box. DIY is about inventive practices that do not need any governing framework. It is social innovation based in arts and crafts, which was already initiated in the 19th and 20th centuries as an after-effect of the Industrial Revolution, by reformers such as Octavia Hill. Self-reliance and ability of community groups to better themselves constitute the core of her thinking, which was triggered by social alienation that she observed (Ermacora & Bullivant, 2016). Gentrification could be a modern-day example of such alienation. As Ermacora and Bullivant (2005) put it, DIY is related to "modern material dignity, as well as to the needs of personalisation and customisation" (p. 38). In the book *Power of Making* Daniel Charny brings attention to both the social need to participate in the creation of "things" and the joy of doing so (Charny, 2011). Two phenomena that reflect the proliferation of DIY are described below: makerspaces and living labs.

Makerspaces are also referred to as fab labs or hackerspaces (Van Holm, 2015). They are community workshops sustained through membership dues paid by those willing to access tools and co-working space to pursue their creative endeavours (Van Holm, 2015). The diffused origin of maker movement explains its lack of a clear definition, however, makerspaces are tightly related to the hacker ethics of collaboration, sharing and learning via the act of deconstructing and reconstructing (Leavy, 2001).

Living lab (LL) is a user-centred methodology. They constitute "collaborative real-world environments" (Leminen, Westerlund & Nyström, 2012, p. 7) and open-innovation networks that enable the users to experience and shape the future direction of services or products (Leminen, Westerlund & Nyström, 2012). Companies use LLs to improve their R&D and co-create with the users who when "equipped with the proper tools [are] the most suitable candidate[s] to design a product or service" (p. 7). Urban living lab (ULL) is a form of LLs that "seek

to deliver innovative and transformative improvements across the urban milieu" (Bulkeley et al., 2016, p. 13) and aim to empower and engage multiple stakeholders in urban development processes. The stakeholders involved in urban co-creation process might be the citizens, politicians, authorities, businesses, NGOs and universities (Franz, Tausz, Thiel, 2015). Establishment of ULLs is an element of the "politics of experimentation" (Bulkeley et al., 2016, p. 14). Their purpose is constantly evolving, nonetheless, they play an important role in urban sustainability governance, and are also referred to as urban transition labs (UTLs) (Nevens, Frantzeskaki, Gorissen, Loorbach, 2013).

2.2.3 Network Society and Empowerment

Makerspaces and living labs prove that the new collaboration paradigm concerns not only software-based communities but is also present in hardware developments. It has been predicted decades ago that open-source innovation is meant to be "followed by an equal wave of new creativity thanks to freely available hardware" (Ermacora & Bullivant, 2016, p. 39). The key outcome of the increased availability of both hardware and software is the empowerment of individuals. Empowering means "view[ing] people as subjects and actors who have abilities to develop, not as objects who lack these abilities and need one-way help from authorities" (Mäkinen, 2006, p. 381). Nonetheless, in the networked society, empowerment concerns the whole communities, not only individuals.

The network society approaches things as systems, not just objects (Ermacora & Bullivant, 2016, p. 39). By definition, a network is "a set of interconnected nodes" (Castells, 2000, p. 695). It has a flexible and adaptive structure and can reconfigure itself by linking up new nodes and disconnecting others. Today's social structures have been reshaped by networks as prevailing organisational forms. With the development of novel communication and information technologies the nowadays' networks gained the capacity to "decentralize and adapt the execution of tasks" (p. 695), therefore innovation has become "more of a vast, decentralised and agile grassroots operation" (Ermacora & Bullivant, 2016, p. 39) that does not need a top-down decision to be initiated.

Apart from the "digital empowerment" (Mäkinen, 2006, p. 381), collaborative behaviours are based on the increasingly widespread social awareness of one's power to make a change, knowledge on social needs of communities, and the familiarity of people with available skills and resources (Britton, 2012). Also, experts and professionals are now more willing to openly deploy their competences in the relevant areas and social groups. Networks exert "emotional impacts" (Ermacora & Bullivant, 2016, p. 40) and form "new bonds between social

processes and the values they represent" (p. 40). This can be observed in the deeper sense of waste concept experienced by communities - waste of talents, energies, ideas and underappreciated assets (Britton, 2012). The model of Asset-Based Community Development (ABCD) is a way of transforming what is present within the community - also what is considered a "waste" - into valuable resources (Pinkett & O'Bryant, 2003). This model thrives in a networked society and leverages the aforementioned emotional bonds. One of the distinguishing features of an asset-based community is being relationship-driven (Kretzmann & McKnight, 1993), meaning "establishing productive relationships [between] community members" (Pinkett & O'Bryant, 2003, p. 192). In the book *Dispatches from the Invisible Revolution* Tessy Britton asserts that such collective strands of thinking are the source of opportunities that can be acted upon and have the potential of changing the lives of people, as well as transforming the nature of placemaking (Britton, 2012).

2.2.4 Peer to Peer and Collaborative Commons

Jeremy Rifkin, an American economist, described 'collaborative commons' as the process of economic and social reorientation and the new emerging economic paradigm (Rifkin, 2014). As defined by David Bollier (The P2P Foundation, 2017), commons constitute a shared resource being co-governed by a certain community, based on the rules being followed within that user group. They refer to what is shared by people "in nature and society that should be cherished" (Shaw, 2014, p. 13) and are the binding elements of nature, culture and the social world. The term incorporates a variety of meanings, being considered "a philosophical stance, an intellectual framework, a moral and economic imperative, a set of organising principles and commitments, a movement" (Shaw, 2014, p. 13) or a worldwide 'community of practice' (O'Connell, 2012). Nonetheless, the commons do not exist without commoning, meaning that no single element from the Bollier's definition (resource, community and rules) shapes the common itself, but it is rather the dynamic interaction between those elements that bring the completeness of the concept.

What is relevant, however, is that the proliferation of collaborative commons has become the core means for building the democratic and alternative institutions of the future, as well as contributes to upgrading the competences of the currently operating institutions (Ermacora & Bullivant, 2016). Together with P2P, which stands for Peer to Peer or People to People, commons shape the system which moves away from centrally-driven dictates of market economy and is built on "the practices and needs of civil society and the environment it inhabits" (The P2P Foundation, 2017, p. 5). P2P is the facilitator of the aforementioned commoning, forming

the digitally-powered "relational dynamic" (p. 7) and "consensual connections" (p. 7) among the "peers". P2P is also referred to as sharing economy and apart from being the mechanism for "the creation, production, distribution, trading and consumption of goods and services by different people and organisations" it is especially relevant in empowering "the multitudes" (Ermacora & Bullivant, 2016, p. 42), meaning the whole civil society. P2P addresses the idea that civil society should constitute the primary decision-making body.

The concept of commons has entered the city context which results with the increasing number of citizens' - or commoners' - bottom-up initiatives and "a radical municipal administrative configuration" (Bauwens & Niaros, 2017, p. 5). Urban commons make up "the locus where digital knowledge and culture, and the material re-organization of a post-capitalist mode of exchange and production" (p. 6) coincide to shape new organisational systems in which the civil society commonifies urban infrastructure to adapt to this transition. Since the idea of commons expanded to concern "urban spaces and practices" (Gidwani & Baviskar, 2011, p. 42) it challenged actors and institutions within the city by contributing to the blossom of contributory democracy[8], generative economy[9], and the spread of the new logic of abundance[10] (Bauwens & Niaros, 2017). A certain fact should be noted when elaborating on urban commons, namely that they are the outcome of people's use, consumption and appropriation of the city (Kornberger & Borch, 2015). Urban commons are "contingent on urban actors' ability to use them" (p. 8) and require "framing and formatting" (p. 8). They are made and entail "work of various kinds, at various scales, of varying frequency and rhythm" (Gidwani & Baviskar, 2011, p. 43). Therefore, the peculiar culture of the city could be identified as "perhaps the most generative yet unnoticed of urban commons" (p. 42).

2.3 Understanding Urban Dynamics and Co-Creation

> And thus, the city is an oeuvre, closer to a work of art than to a simple material product. If there is production of the city, and social relations in the city, it is a production and reproduction of

[8] Bauwens and Niaros (2017) highlight the problem of increased demands of contributory communities that emerge around the commons. The members of such communities challenge the existing rules and aim for the management of commons based on their own rules, "outside of the public-private dichotomy" (p. 7).
[9] The notion of generative economy stands for the idea of succeeding in shaping "meaningful livelihoods [...] compatible with the natural commons" (Bauwens & Niaros, 2017, p. 24).
[10] The concept of abundance in the context of collaborative commons reflects the ability of actors to "direct their energy towards collaborative problem-solving" (Bauwens & Niaros, 2017, p. 25) by means of the emerging, often digital platforms.

> human beings by human beings, rather than a production of objects. The city has a history; it is the work of history, that is of clearly defined people and groups who accomplish this oeuvre, in historical conditions.
>
> -Henri Lefebvre, *The Production of Space*, *1991*

The city as a co-creation arena is the focal point of this chapter. Before moving to theories that explain urban dynamics and the concept of co-creation, it is worth to present the etymology of few relevant words: 'urban', 'city' and 'public' (Dovey, 2016). The word 'urban' comes from the Latin term *urbanus*, which means 'courteous'. Urban spaces are shared by a multitude of diverse social groups who do not know one another and who differ in terms of beliefs, opinions, and backgrounds. Thus, etymologically, being urban stands for showing courtesy and respecting differences. Likewise, 'city' has its origin in the Latin word *ciuis*, which denotes the 'citizen', or "a denizen of the city" (Dovey, 2016, p. 9). Hidden behind this meaning is a link between the spatial and social conception of the city - between the person inhabiting and the space that this person inhabits. 'City', as a term, shares its origin with other words, such as 'civic', 'civil' or 'civilized'. Therefore, being civil stands for being courteous. Consequently, it can be deduced that urban citizens are connected by the ties that - regardless of their strength - bond the citizens, as they share the same public space. Last but not least, another word rooted in the Latin language is 'public' - *publicus* - which means "belonging to the people" (p. 9). Such explanation implies human interaction and appropriation of public space by the people. To conclude, the etymology of the selected words embodies the key concept of this chapter, such as human interaction, urban diversity and ownership over urban space.

2.3.1 City as an Assemblage

The interrelationship between agency and structure has been extensively analysed by social scientists. Emirbayer and Mische (1998) put emphasis on the interplay and "double constitution" (p. 1005) of the two concepts, stating that "temporal-relational contexts shape the patterns of responses" (p. 1005) that form "agentic orientations" (p. 1005) which, in turn, influence the relationships and approaches of various actors towards those contexts. Pickering (1993) recognised the role of both human and nonhuman agency and called the intervening of people with materials "an ongoing dance of agency", contrasting it with the view of Latour's

(1987) Actor-Network Theory[11] (ANT), which rests on the symmetry of nonhuman and human elements. Latour himself describes ANT as a relativist and reductionist theory, expressing metaphorically that it involves "no aether in which networks should be immersed" (Latour, 1996, p. 370).

Deleuze (1990, 1994) elaborated on the idea of 'creational agency'. His premise was that humans are not only "immersed in a world of nonhuman forces" (Ramaswamy & Ozcan, 2018, p. 198) but also bonded with those forces through affective relations (Bowden, 2015). Due to digitalisation, the interaction between humans and nonhuman elements - such as technology - new forms of creational potentialities emerged (Ramaswamy & Ozcan, 2018). The Deleuzian theory asserts that creative power is an outcome of "relations of a body with an entire, heterogeneous *assemblage* of bodies and forces" (Ramaswamy & Ozcan, 2018, p. 198). The structuring organisations or agencing engagements, mentioned above, facilitate or constrain such interactions, thus have an impact on the intensity of events evolving from "potentialities of assemblages of human and nonhuman forces" (p. 198). The English equivalent of the word assemblage is 'agencement', which is the concept specifically analysed by Deluze and Guattari (1987). Agencement stands for an arrangement that could act in various ways, depending on the "combination of [its] heterogeneous components" (Ramaswamy & Ozcan, 2018, p. 198), such as people or objects. The key assumption is that the links between the components and their mutual interrelation can bring about diverse patterns of action (Callon, 2007). It is, indeed, the interactions that create the assemblage and assemblage thinking pays attention to "both the individual elements and the agency of the interactive whole" (McFarlane, 2011, p. 653).

The concept of assemblages has been frequently used when studying urban spaces and deployed in different ways. It has been comprehended as a descriptor of social and material changes in the analysis of urban metabolism or urban socio-natures, as well as cyborg urbanism (Gandy, 2005; Swyngedouw, 2006). It has been also approached through ANT, which is believed to offer a new way of thinking about the city (Farias, 2009; Munthe-Kaas, 2015). Farias (2009), for instance, built on the aforementioned agencement concept and described urban assemblage as "a basis for decentering the city and rendering urbanism as a multiplicity of processes of becoming, sociotechnical networking and collectivity" (McFarlane, 2011, p. 653). Overall, most of the researchers agree that urban assemblage is about "adaptivity rather than fixity or essence [and] co-articulation and compossibility rather than linear and discrete determination" (Venn, 2006, p. 107). Urban

[11] ANT constitutes a methodological approach to understanding social theory and implies that the existing structures in the social and natural realities undergo constant shifts related to changes occurring within the networks of relationships (Latour, 1987).

assemblages cannot be categorised as spatial units or an output, as they manifest doing, action, and performance. As emphasized by McFarlane (2011), the intersection of assemblages with the city lies exactly in the "theme of making urbanism" (p. 652). Thus, he brings the focus to the verb of assembling, not the noun - the assemblage, or the agencement.

If according to assemblage perspective, the city should be seen as a place which is made through inhabiting, not only an inhabited place, then actors in the urban space should have a voice in shaping the city. Only then urban spaces will become 'matters of concern' (Latour, 2007) - meaning their form will be openly discussed by the citizens - and function as true assemblages and "spaces of possibility" (Dovey, 2016, p. 258). In fact, urban assemblages are broadly political, as they constitute means of continuous thinking of "the play between the actual and the possible" (McFarlane, 2011, p. 652) and "openings for alternative [future] developments" (Munthe-Kaas, 2015, p. 219). Based on the elaboration of Blok (2013), urban assemblages involve "clear issues of inequality and power [and] open up new spaces of democratic experimentation around [...] matters of concern" (Munthe-Kaas, 2015, p. 219).

2.3.2 Institutionalist Approach to Urban Dynamics

The idea that the identities of people who inhabit a space are socially constructed constitutes the core of the institutionalist approach (Healey, 1997). The way an individual sees or knows the world is highly affected by the social context of that individual, which contains "frames of reference and systems of meaning" (p. 56). To put it another way, institutional perspective assumes that institutions, regarded as "enduring elements in social life" (Lawrence & Suddaby, 2006, p. 216), influence the way individuals or collective actors think, feel and behave. Nonetheless, all individuals are actively involved in the construction of their social lives, meaning that they "consciously adhere to, or actively set out to transform" (Healey, 1997, p. 56) their institutions. The perception of institutional approach as purposive activities centred on creation, maintenance and disruption of social contexts is supported by many authors, including Jepperson (1991), as well as Lawrence and Suddaby (2006).

Therefore, despite the non-neutral territory in which the social construction work takes place, along with unequal power structure in social contexts, institutionalist approach acknowledges that those powerful forces are constituted by means of daily social interactions and relations (Healey, 1997). It recognizes people as "reflective beings [who make the choices about] what to accept of [their] structured, social embeddedness, and what to reject" (Healey, 1997, p. 57). Continuous interactions sustain the ongoing process of shaping identities

and relations (Shotter, 1993), which then become bonds or relational resources maintained by virtue of shared understandings and values. Such resources can be called upon in the future and are the grounding force of collaborative urban planning practices. Networks and relational webs, which were elaborated before when discussing the merits of the open society, overlap in various ways, and even though they are embedded in past experiences and become the source of taken-for-granted assumptions, they are being "continually renegotiated and re-formed" (Healey, 1997, p. 58).

Healey (1997) recons relational webs as the metaphor that accurately describes relational social dynamics and recognizes interactions and mobilisation within and among networks as an impellent factor in social change. Through leveraging power base and taking advantage of network links, different pressure groups can be formed, which contribute to the promotion of ideas and the emergence of 'urban social movements' (Fainstein & Hirst, 1995). Social mobilisation reshapes the understandings and perceptions of people by "connecting people in one set of relations to others" (Healey, 1997, p. 59). Certain nodes, for instance, discussion forums, summits focused on certain topics, annual meetings, conferences, urban masterclasses, can especially contribute to promotion or resistance of mobilizing efforts.

Lawrence and Suddaby (2006) consider the publications of two authors as having a major impact on the shift of attention towards the role of individuals and groups in shaping institutions. The first author is DiMaggio (1988), who introduced the concept of institutional entrepreneurship, which emphasizes the influence of actors and agency on institutions. Institutional entrepreneurship is about "the manner in which interested actors work to influence their institutional contexts" (Lawrence & Suddaby, 2006, p. 215). It should be, however, emphasized that institutions arise not only as a result of institutional work of entrepreneurs but also the interest of a wider range of actors, including those with limited resources, who might substantially support or facilitate entrepreneurial endeavours (Leblebici, Salancik & King, 1991). Mobilization could arise in informal arenas as well (Healey, 1997).

The other author mentioned by Lawrence and Suddaby (2006) is Oliver (1991; 1992), who is known for her account of deinstitutionalization and its antecedents. Oliver (1992) acknowledged that different actors can both actively disrupt and maintain institutions. Thus, it cannot be taken for granted that institutions will continue to thrive without the intervention of actors. Likewise, there is no guarantee for the continuation of deeply institutionalised practices, rules or technologies, if individuals and collective actors do not express active involvement in the maintenance work (Lawrence, Winn & Jennings, 2001). Entropy is present even in an

institutional context and can be overcome through organized movement (Zucker, 1988). The sociology of practice perspective stresses the value of "creative and knowledgeable work of actors" (Lawrence & Suddaby, 2006, p. 219) who interact with available technological and social structures. Regarding technology, seen through the lens of practice theory, Orlikowski (2000) highlights that technologies can be utilized by people in line with the expectations of designers, nonetheless, the users can and do abstract from the ordinary and circumvent their own inscribed approaches to and interpretations of technologies.

Potential interaction problems in a place, according to Healey (1997), could relate to the fact that there might be no or few interconnections between various relational webs that exist in that place. Urban regions might encompass a multitude of socially heterogeneous communities, thus the probability of people being confronted by individuals or groups with different viewpoints is very high, as actors occupy diverse relational positions and share no "past history of actual encounters" (p. 60). The goal of spatial planning systems is to accommodate such encounters and create a framework that could help to deal with them. Spatial systems aim to make connections between various networks that operate and co-exist in a certain locality. They provide a platform for conflict resolution and "an arena within which people come together [...] to work out what [...] needs to be managed" (p. 60) about the local context. The conflicts that might arise do not only concern individuals with similar values but also cultural communities, which do not share the same system of meaning. Nowadays, collaborative spatial planning processes are becoming highly multicultural.

A local conflict is not necessarily about specific, tangible issues, but might require work on deeper layers of humans' conception of the problem. Moreover, there is great inequality involved in any conflict, related to behind-the-scenes power relations, that favour some of the actors involved, as well as some "ways of discussing and [...] forms of organising" (Healey, 1997, p. 60). Therefore, apart from paying attention to the pivotal issues under discussion, every collaborative endeavour that addressed "matters of collective concern" (p. 60) and takes place among culturally-diversified relational networks should be alert to the ways and manners in which problems are discussed and to who gets to take part in that discussion. Well-executed discussions on local issues have high transformative potential that might affect the perception of many actors. The concept of social skill introduced by Fligstein (2001) revolves around different tactics that might be applied by social actors to make others cooperate for certain goals. For instance, by shaping meanings that appeal to large and multicultural communities, entrepreneurs or social activists can "get disparate groups to cooperate" (p. 106).

When carrying out transformative work "the realm of ideas and the discussion of ideas" (Healey, 1997, p. 61) constitute the key resources. If ideas are created as a part of policy discourses, a new understanding of issues and new approaches towards them might emerge. Novel ways of thinking might change the way governance authorities operate and alter the patterns in which resources are allocated by different actors. In the context of urban planning, the work of discussion might affect the structure of networks and forms of organising, which in turn contributes to relational resources available in urban space and might add up to its transformative potential. Healey (1997) coins the phenomena of building "new relational links between networks [that] co-exist in an urban region" (p. 61) as the 'institutional capacity'.

2.3.3 Design Thinking and Human-Centred Design

The notion of 'design thinking' finds its origin in the publications of a group of mid-century design theorists. Among the books which elaborated on this concept are *Design Thinking* by Peter Rowe and *Designerly Ways of Knowing* by Nigel Cross (Janzer & Weinstein, 2014). The current form of design thinking has been, however, broadly disseminated in the field of social design through the article published in *Harvard Business Review*, authored by Tim Brown, the CEO of IDEO, the globally recognizable design company. Broadly speaking, design thinking refers to "a methodology that imbues the full spectrum of innovation activities with a human-centred design ethos" (Brown, 2008, p. 86). It powers innovations which are based on a thorough understanding of humans' needs, wants, likes and dislikes, as well as their interaction with the physical and social world. Brown's account on design thinking does not only relate to finding answers to organisational challenges, but also to solving complex societal problems (Kimbell, 2011). Design thinking emphasizes exploration (Brown, 2009, p. 17), as well as the non-linear nature of design processes, that can "convert problems into opportunities" (Kimbell, 2011, p. 294) by iteratively moving through the stages of inspiration, ideation, and implementation (Brown, 2008).

In his publications, Brown stresses the importance of seeing design thinking from a human-centred angle (Brown, 2009, p. 115). This approach is based on the notion of empathy, meaning that designers should be able to understand the viewpoints and problems of people - being the end-users of their designs - and come up with accurate interpretations of what they perceive. While design thinking itself is the process, the human-centred design is more of a mindset and a tool that should be used alongside the process (Hoover, 2018). According to Krippendorff (2004) "human-centeredness takes seriously the premise that human understanding

and behaviour goes hand-in-glove" (p. 48), meaning that the crucial point of design activity is to clarify the meaning that the solution offers to users and the purpose of the design. Therefore, the design should focus first on "questions of motivation, discourse and learning before proceeding to identify the means of implementation" (Giacomin, 2014, p. 609). Human-centeredness uses communication, interaction and empathizing methods that stimulate the participants of the design process to obtain knowledge and understanding on their needs, requirements, experiences, that "often transcend that which the people themselves actually realized" (p. 609). It is "a pragmatic and empirical approach for making sense of the world around us" (p. 610).

Kimbell (2012) adds a similar perspective to the understanding of design thinking by using inputs from anthropology and sociology - meaning theories of practice - and introduces the concepts of 'design-as-practice' and 'designs-in-practice'. Practice theories put emphasis on what humans do "in their embodied, often mundane, situated interactions with other people and with things" (p. 132). To put it another way, design activities and expertise are formed in practice, both materially and discursively. Consequently, the notion of design-as-practice acknowledges that the practices of designers are highly habitual, governed by rules, generally routinized, either conscious or unconscious, as well as situated and embodied (p. 135). Thus, the knowledge, expressions and actions of designers are "constituted by and co-constitute what is possible [or not possible] for [them] to do, know, and say" (p. 135) in certain locations and contexts, and at certain times. The term designs-in-practice, in turn, reflects the thoroughly social nature of design, recognizes its emergent character, "as [designs] are enacted in practice" (p. 135), as well as highlights "the impossibility of there being a singular design" (p. 135).

Three key components of design thinking, which matter also and especially in the context of public innovations and urban design practices, are listed by Ansell and Torfing (2014, p. 12). Firstly, design thinking is both problem- and future-oriented, which enables imagining multiple possible futures and acting upon those scenarios in a way that solves or mitigates identified problems. Secondly, it uses heuristic devices so as to make the "emerging futures concrete and tangible" (p. 12), as well as inspire the iterative, creative processes that lead to the design of feasible and accurate solutions. The third component refers to interactive arenas, which facilitate the involvement of all relevant actors in the design process, to ensure the delivery of a holistic solution that integrates their various perspectives, experiences, skills, and resources.

2.3.4 Urban Design Thinking

Since the design thinking methodology has been widely applied when solving complex societal problems, the designers' role began to encompass the creation of "collaborative spaces for co-creation" (Ansell & Torfing, 2014, p. 3). Kim Dovey (2016) used the term urban design thinking in his latest book and was the first author to comprehensively use assemblage thinking (Deleuze & Guattari, 1987) in the field of urban design. His interest in assemblage thinking is justified by the conviction that "it provides particular capacities for rethinking the city in ways that prioritize connections between things over things-in-themselves: difference over identities, co-functioning over functions, complex intensities over simple densities" (Dovey, 2016, p. 1). What Dovey emphasizes is that urban design thinking has many facets and is characterised by conceptual multiplicity, thus every designer and every individual can find their own thread in the whole range of urban design thinking methodologies.

As Dovey (2016) puts it, urban design thinking is both art and science, since it pays attention to "connections between the morphologies and experiences of the city" (p. 4), trying to comprehend the links between the flows and forms that are present in the urban space, as well as emotional, social, and political aspect of urban realities. Urban design practice is meant to face the issue of spatial justice, as public space is the arena of constant "struggles over politics and power" (p. 14). The common manner in which urban spaces are being shaped is often aimed at segregating people based on ethnicity, social class, age, religion. Such segregation neutralizes both demographic and social potential of the space and is contradictory with the idea of approaching the city as a common space and the notion of public interest. Henri Lefebvre (1996) proclaimed the "right to the city", which acknowledges the rights of citizens to access and appropriate spaces within the city. Therefore, urban design, along with the meaning of public spaces and ways of using it, is always in contention, due to the rich range of public desires to consider.

The paradox of urban design is that even though much effort is put into understanding the unique composition of urban spaces and architectural artefacts in a city "as a work of art" (Dovey, 2016, p. 14), the most compelling aesthetic impacts are the outcome of the work of multiple actors and many hands, not a result of a single, imposed vision. In principle, urban design needs to consider multi-layered "creativity, erasure, history, politics, economics and technical inventions" (p. 14) of a place. As stated by Walter Benjamin (1978, 1979), urban aesthetics is overwhelming and distracting, catching the citizens unaware and triggering their memories and dreams through chance encounters and juxtapositions of forms, images, and city artefacts. The ways

engagement in contradictions and differences is spatially formed constitutes the core of the urban design. Encounters with a variety of civic urban forms, and the necessity to negotiate spaces among the urban population, make the cities and those who inhabit them more humane. In Dovey's (2016) own words, "what is at stake in urban design thinking - in the ways [people] choose to shape and share urban public space - is the future of urban civilization" (p. 14).

Despite urbanity being perceived as a total of dynamic and random encounters with contradictions and divergence, it does not imply that urban spaces need to be randomly organised. Inspired by the work of Jane Jacobs (1961) and the "four conditions of urban density[12]" that she articulated, Dovey (2016) puts forth the DMA model - "an assemblage of density, mix and access" (p. 15) - as an attempt to structure the unstructured encounters, meaning urban intensity. His model is a time-adjusted interpretation of Jacob's elaboration which apart from density, takes into account the conditions that affect urban creativity, intensity and productivity. It is worth to break down the DMA to understand each of its elements (Dovey, 2016). Therefore, density is about shortening the distances between individuals and spaces that they need to access. Mix stands for the study of co-functioning, meaning "the alliances and synergies between functions" (p. 16), for instance between home and spaces for play. Finally, access relates to ways of getting around the city, making connections between its different parts and districts. DMA is a triangle of "connectivity, co-functioning and concentration [...] [as well as] forms, functions and flows" (p. 16), and a great conceptual contribution to urban design thinking. Likewise biological DNA, it provides a framework of connection-driven possibilities in an urban space.

2.3.5 Social Sciences in Urban Design

Fundamentally, 'social design' refers to the application of design to solve societal problems (Janzer & Weinstein, 2014). As it has been already emphasized in the previous sections, the role of designers has entered the realm of complex social issues, which calls for their high sensitivity towards social and cultural cues related to the place covered by the scope of their work, as well as stakeholders affected by their designs. Lack of such sensitivity

[12] In her seminal work titled *The Death and Life of Great American Cities* Jane Jacobs distinguished the famous four factors conditioning urban diversity. The factors involve the requirement for constructing 'short blocks' that enable the citizens to easily turn the corner and explore urban spaces, the 'mix of primary uses' (or functions) of districts and its parts, the presence of 'old buildings', meaning maintenance of a good balance between the old and the new urban constructions, and lastly 'concentration', which is Jacob's manifesto of the love for density, which is believed to secure diverse economic life in the city (Jacobs, 1961).

leads to the spread of the ineffective, or even negatively impactful, neocolonialist design practice[13]. To bring social change through design, it is crucial to place viewpoints, believes and knowledge of people above "solutions cultivated from afar" (p. 326).

Likewise, Heller (2018) argues, that social design creates the capacity among participants for inventiveness and enables people to react upon the real-time conditions, even if they differ from what has been planned (Heller, 2018). The author asserts that social design embodies the design of relationships. The term itself indicates the process of building adequate social conditions to ameliorate "agency, health, creativity, equity, social justice, resilience, and connection to nature" (Heller, 2018, p. 11). Social design shapes a "collective sense of self" (p. 6) that calls for deeper investigation in communities and places.

Janzer and Weinstein (2014) claim that besides the notion of 'social design', various terms have been used to reflect the identical concept, which include, but are not limited to, "design for social innovation, design for social change, creative changemaking, co-design, service design, empathetic design, and human-centered design" (p. 328). The authors emphasize the importance of developing a common framework for the implementation and evaluation of social design projects and argue that a shift towards 'situation-centered (social-centric) priorities', from human-centred priorities (being object-centric) is essential in the field of social design (p. 329). Moreover, they recognize the importance of 'community ownership' and 'inclusive participation' in design practices, which help to ensure that end users can fully embrace the outcomes and future effects of the project.

Therefore, sustainability and longevity are critical aspects of social design initiatives, but they can be achieved only when design practices consider not merely the perspective of end-users, but rather the whole social milieu, which involves many diverse end-users, along with "delicate systems and structures in which [the] users interact" (Janzer and Weinstein, 2014, p. 329). Designing in the social realm requires strong emphasis to be put on the empowerment and involvement of all relevant project stakeholders, thus such design has to be "collaborative, culturally relevant [and] socially applicable" (p. 329).

Lastly, Janzer and Weinstein (2014) point out the main contribution of social sciences to social design practice. Perspective-wise, social science field stresses the understanding of the project context and moves away from the idea that one-size-fits-all solution can be found for social initiatives. For instance, there is no a ready-made

[13] Neocolonialist design refers to the "influence over a population, community, or society in the absence of direct, obvious or formal control" (Janzer & Weinstein, 2014, p. 338).

solution for urban design projects, since every city, neighbourhood, or even a street, is different, having unique social structures, being inhabited by a unique variety of actors, and dealing with its unique set of problems. Thus, social designers need to consider using "a mix of multiple, relevant methods" (p. 332), available in the rich menu of social science methodologies, which should be adjusted to project particularities.

2.3.6 Co-creation and its components

a. Defining co-creation

A considerable body of literature on co-creation was published in the past decade (Ramaswamy & Ozcan, 2018). Ramaswamy and Ozcan (2018) carried out an extensive literature review on the definition of co-creation. Drawing on a large range of sources, the authors connected the notion of co-creation to various concepts, including: "collaboration with users as innovators (e.g., Bogers, Afuah & Bastian, 2010; von Hippel, 2005), [...] participatory roles of consumers, communities and crowds (e.g., Cova & Dalli, 2009; Ind, Fuller, & Trevail, 2012; Kozinets, Hemetsberger, & Schau, 2008)" (p. 197). These studies reached no consensus on the all-purpose definition of the term.

Most of the research set out within the investigation of the activities of actors by Ramaswamy and Ozcan (2018) approaches the concept of co-creation through interactions. They put forth "networked interactions in agencial assemblages as a new starting point" (p. 202). According to MacInnis' (2011) typology of conceptual contributions, the authors' idea of the conceptualization of co-creation is envisioning as it "makes us aware of what we have been missing and why it is important" (p. 138). The definition conceived by Ramaswamy and Ozcan (2018) portrays co-creation as an "[...] enactment of interactional creation across interactive system-environments (afforded by interactive platforms), entailing agencing engagements and structuring organizations" (p. 200). This definition originates from "interactive system environments whose heterogeneous relations can be configured anywhere in the 'value creational system'" (p. 197). The authors argue that interactional creation happens through the constituents of interactive platforms that include artefacts, persons, processes and interfaces (APPI).

Prahalad and Ramaswamy (2004) highlight that the facilitation of a nodal firm is often initiated when the "individuals co-construct their own contextualized outcomes of value, through interactions with a network of entities" (Ramaswamy & Ozcan, 2018, p. 200). Ramaswamy and Ozcan (2018) provide a co-creation framework

where every "networked environment of interaction" (p. 197) include a specific set of APPI elements that are induced in "the focal environment of a nodal entity in a network" (p. 197). It is suggested that the investigation of the connections between nodal entities and interactions in "Individual-to-System-to-Individual (I2S2I) environments can improve "the quality of interactional creation experiences" (p. 197). Additionally, the more specific term of 'co-creation for sustainability' was coined, defined as a process where "[an actor] collaborates with diverse social actors to create societal transformations in the goal of materialising sustainable development in a specific location, region or societal sub-sector" (Trencher et al., 2014, p. 4).

b. The role of placemakers

Urban designers are endowed with a significant capacity to facilitate collaborative partnerships between the private and the public sector (Brown et al., 2009). Participatory placemakers are required to manage local networks so as to create the feeling of empowerment among the participants of urban projects, "despite residual skepticism and the prevalence of older legislative and behavioural barriers to change" (Ermacora & Bullivant, 2016, p. 96). Furthermore, in order to change the prevailing top-down approach of urban planning, the placemakers play a significant role in scaling up participatory practices to facilitate wider acceptance of the alternatives to top-down approaches.

Tan (2017) asserts that designing for the self-organizing city may appear contradictory, since the role of the designers is to support "the city to function as a self-organizing system" (p. 8). The author claims that such support role aims to:

> [...] synthesize social, economic, environmental, cultural, and political dynamics shaping the city; include a multiplicity of urban players to incorporate society in all its complexity; allow for smooth, jargon-free trans-disciplinary work between diverse urban actors; assess urban patterns and rules by applying the intelligence and experiences of real human players; reveal existing rules and observe their evolution; propose new rules, or generate others for particular urban situations in order to re-make the city (Tan, 2017, p. 9).

According to Janzer and Weinstein (2017), if social designers aim to deliver solutions for social problems with change in the society, the "solutions cultivated from afar must be considered subordinate to beliefs, knowledge, and perspectives of the people" (p. 328). The authors claim that it is imperative to ensure that political, economic and cultural systems are taken into consideration by social design practitioners.

According to Brown et al. (2009) the role of urban designers encompasses the incorporation of the legislation of different levels, the values of mediators of various points such as historic preservation, and social equity, the technical advancements, the financial aspects of the developers and investors, and the scientific views of those who possess complex knowledge of the natural system of the planet. The authors point out that this integrative work induces the production of blueprints, manuals, and legislations that shape urban environments and establish "the balance between mankind and nature" (p. 4).

c. Notes on creative tools for citizen participation

In the following subsection, games are introduced as creative tools for citizen participation. Tan (2017) investigates city gaming as an effective tool for turning urban planning into an "inclusive and self-organizing process that generates humane cities" (p. 9). According to Tan, as cities are self-organizing systems and games intrinsically foster self-organization, gaming can become a tool for fostering the self-organizing function in urban developments. Games serve as laboratories for participation and are considered effective at enhancing the understanding of urban environments among project participants. The connection between reality and gaming is studied in the book of Tan (2017) *Play The City, Games Informing the Urban Development*.

Tan (2017) elaborates on several ways games can connect the participants to real-life environments. In his book he asserts that "games run their fictional narrative in an environment the player recognizes from real life" (p. 31). Besides, games bring the participants to "alternate realities to help initiate real-life challenges" (p. 33). By "taking real-life quests like global warming, migration, inequality" (p. 33) games can facilitate generation of what-if scenarios and trigger actual behavioural changes among the citizens.

By transforming the most pertinent urban problems into a game, urban planners could enable the testing of collaborative solutions and encourage out-of-the-box thinking among the players, who, through trials and errors, could learn about the mechanisms of urban developments and consequences of their own actions (Tan, 2017)

Münster et al. (2017) argue, that gamification can be used to foster "user motivation to participate and contribute to planning processes" (p. 2398). Gamification stands for the utilization of game design outside of the game context (Deterding, Khaled, Nacke & Dixon, 2011). As suggested by Münster et al. (2017), different gamification methods should be applied at various levels of participation in urban planning projects - informing, consulting,

collaborating[14] - to foster participation and enhance the engagement of people. Additionally, Ermacora and Bullivant (2016) state that art-driven activities have mediator role in participatory placemaking, as art plays a communicational and transformational role in the society: "In the context of participatory placemaking, it can also be an engaging, low-barrier means to trigger civic engagement, highlight neglected issues and engender a fresh sense of collective creativity" (p. 67).

The study on participatory art by Johansson and Isgren (2017) emphasizes that science and art aim to express "the world around us in creative and innovative ways to create novel knowledge and awareness" (p. 2). The authors assert that a substantial body of research proves that the use of art in empirical studies can recapitulate complex topics, improve communication, and create novel integrative narratives by attracting people with various cultural background (Curtis, 2011; Heras & Tàbara, 2014; Streck, 2014). Art can fill the gap between awareness and behaviour and provoke sustainable change in the society by affecting emotions and cognition (Heras & Tàbara, 2014). "Creating art through collaborative processes is also a way to elicit knowledge, values, and emotions" (Johansson & Isgren, 2017, p. 2) which constitutes the core objective of qualitative research.

d. Evaluation of projects

Evaluation of developments is essential, as it challenges the placemakers and further promotes the creation of "positive externalities and public benefits" (Ermacora & Bullivant, 2016, p. 31). Ermacora and Bullivant (2016) highlight the importance of the differentiation between developers driven by commercial motives and those who seek to plan for long-term goals with the support of value-driven investors.

Brown et al. (2009) enlist a set of five *Principles for an Urban Century.* As the principles the authors highlight the following: *building community in an increasingly diverse society* by creating places that draw people together, supporting social equity, emphasizing the public realm and forging stronger connections; *advancing sustainability at every level* by fostering smarter growth and addressing the economic, social, and cultural underpinnings of sustainability; *expanding individual choices* by building densities that support greater choice, constructing interconnected transportation networks and providing choices that enhance quality of life; *enhancing personal health* by promoting public health and increasing personal safety; *making places for people*

[14] OECD, Citizens as Partners: OECD Handbook on Information, Consultation and Public Participation in Policy-Making, OECD Publishing, Paris, 2001.

by responding to the human senses, integrating history, nature, and innovation, emphasizing identity, celebrating history, respecting and engaging nature and introducing innovation (p. 109-110).

In the plethora of variables which can be claimed as key factors for successful urban design projects, certain characteristics can be identified that enable leveraging the collaborative process from planning to implementation. Brown et al. (2009) argue that these key qualities include the following: *relevance, inspiration, feasibility, phasing, implementation, flexibility and political viability* (p. 22-24). Ermacora and Bullivant (2016), in turn, argue that the primary indicator of the success of a collaborative urban project is whether the community is able to maintain the development of that space after the experts have parted. Ratcliffe (1981), instead, proposes that the evaluation of the success of participatory design projects has to be based on established criteria, such as the participant-to-population ratio, social diversity within the project group, quality of proposals, the effectiveness of communication and the progression of participation.

2.4 The Percepts on the Futures of Cities

> When it comes to shelter and placemaking in an age of limits, a city's primary resource is the energy and motivation of its inhabitants.
>
> -John Tucker, Introduction to *Recoded City: Co-Creating Urban Futures*, *2016*

To enhance the wellbeing of urban population and maintain stable economic growth, as well as the political stability of cities, urban design and placemaking strategies need to be reinvented. Such steps are decisive in shaping liveable, sustainable, and equal futures of entire nations, and reducing the ecological footprint of humans at the planetary scale. It is certain that the Earth's multiple civilizations need to work together for better tomorrow. In the age of challenges and limits, "clear-headed, resilient, socially equitable and collaborative placemaking contributes impetus" (Ermacora & Bullivant, 2016, p. 96). This chapter focuses on the futures of cities and the role of collaborative design practices and wide-ranging participation in shaping them. The plural form of this noun is used purposefully, as many futures are possible, depending on the actions taken by the next generation of activists, decision-makers, urban planners, and individual citizens.

2.4.1 Collaborative Design for Sustainable Urban Futures

The repercussions of the contemporary sustainability crisis are twofold (Trencher et al., 2014). Primarily, the pressing problems of climate change, degradation of the environment, food security, scarcity of resources, and economic-downturn, affect a broad range of actors and human settlements on a planetary, macro level. Additionally, cities and communities around the world must face critical local concerns, such as environmentally harmful infrastructures, dynamic population changes, economic downturn or ecological degradation (Trencher et al., 2014). The critical sustainability concerns are extremely wicked and ingrained in "multiple areas of the complex social, economic, technological, political, cultural and environmental fabric of human settlements" (p. 152), which calls for greater partnership across disciplines and between academic entities, governments, businesses, and civil society. In the beginning of the 1990s public and private actors at the local, national and European level acknowledged the need for sustainable urban (re)development (Mayer et al., 2005). United Nations devoted a separate Sustainable Development Goal to cities - SDG 11: *Make cities and human settlements inclusive, safe, resilient and sustainable* (United Nations, 2018) - in order to tackle the most impediment environmental problems and make sure that efficient and sustainable placemaking strategies are in place to control the impact of urbanisation challenges.

Carrying out of (re)development projects in the cities brings opportunities for improving their environmental and socio-economic conduct. Mayer et al. (2005) assert that the goal of the sustainable built environment is clear - to integrate multi-disciplinary insights and various stakeholders' perspectives with attention to the dimensions of time and space in urban development. They also recognize that collaborative design approach and participatory activities, applied when pursuing urban plans and decisions, have the capacity to balance and deal with the diverging and often contradictory perspectives of relevant actors. Moreover, technology is stressed as the factor that facilitates sustainable urban development by enabling knowledge sharing and communication across disciplines (Weaver, Jansen, van Grootveld, van Spiegel & Vergrant, 2000). Lastly, sustainable urban design needs to consider the perspectives of all relevant interest groups, including "people who plan, construct, finance, operate, and (will) live" (Mayer et al., 2005, p. 405) in the (re)constructed space or building. In the view of Mayer et al. (2005), "the rationality of the design process [...] [and] the political rationality" (p. 405) should go hand-in-hand to successfully realize sustainable urban projects, and collaborative urban renewal should be approached as a learning process in which engaged actors explore diverse opportunities, meaning various sustainable futures, and together generate "a clearer picture of sustainability" (p. 416).

As described by Edwards (2005), sustainability is "a revolution with a new value system, consciousness and worldview" (p. 5). Based on that idea, Du Plessis and Brandon (2015) assert that the movement of urban development "into a positive curve towards sustainability" (p. 52) requires the shift of paradigm from a mechanistic one to a regenerative, 'ecological worldview'. Ecological worldview implies that the purpose of sustainability is to strengthen the adaptive capacity, conditions, and transformative potential of the global socio-ecological system, enabling its ingenerate alterations, thus "creating conditions for a thriving and abundant future" (p. 59) for both humans and the planet. Reed (2007), in turn, acknowledges that the new paradigm of sustainability strives for "sustaining life-enhancing conditions" (p. 675) through shaping new restorative, reconciliatory and regenerative approaches[15].

Based on a multitude of observations and disciplines, including sociology, psychology, natural science, quantum physics, and neuroscience, Du Plessis and Brandon (2015) distinguish three key narratives reinforcing the new ecological sustainability paradigm. The qualities of wholeness, relationship and change can be inferred from those narratives (p. 56). In essence, people should be seen as an integral part of the biosphere and should partner in co-creating the metabolic and change processes of the environment. Besides, the human mind has the capacity to self-reflect and introduce novelty and change in the socio-ecological systems, based on symbolic thought processes. The second metanarrative implies the relational nature of the ecological view, as dealing with living systems encompasses coping with "connections, flows, relationships, interdependence, evolution and consciousness" (p. 56) that they embed. Interactions within living systems are both output and input of "flows of matter, energy, information and influence, [...] [along with] processes of adaptation and self-organisation" (p. 56). In a nutshell, change is a necessary condition of life and the world we live in now is impermanent.

The ecological view is the grounding force behind the concept of 'regenerative sustainability' and 'regenerative design'. Robinson and Cole (2015) recognize that both concepts, despite their ontological and epistemological disparities, "suggest a reorientation of focus from reducing harm and damage to creating net-positive outcomes in both environmental and human terms at the building and neighbourhood scale" (p. 140). The narratives highlighted by Du Plessis and Brandon (2015), give relevant guidelines to urban planners and political actors deciding on the form of the cities of tomorrow. First of all, the collaborative urban development process should

[15] Reed (2007) explains restorative approaches as being able to build up "the capacity of local natural systems" (p. 677) to remain self-organized when affected by dynamic internal and external changes. Reconciliatory approaches recognize people as an integral part of the natural environment and stress the wholeness of both. Regenerative approaches, in turn, focus on the holistic transformation of the system, involving all its human, natural, and material elements.

go beyond the formation of the physical piece of architecture, as urban constructions are not only objects but rather “a ripple that restores, regenerates and opens up new opportunities for growth” (p. 60). Furthermore, design methods, tools, and technologies should “aim to reintegrate human habits and habitats with nature” (p. 60). This goes in line with the idea of regenerative design that focuses on producing a net positive impact by “merging and working with nature” (p. 60). Thirdly, evaluation and assessment approaches and tools applied in urban projects should be acknowledged as “tools for reflection” that facilitate wise decisions concerning the built environment of the future.

2.4.2 Collaborative Design for Liveable Urban Futures

Ever accelerating urban expansion has created substantial room for alternative housing projects and speculative housing developments. For instance, many developing countries invest in upgrading the slums, while urban planners in developed countries try to accommodate the increase in the number of citizens by constructing more of the standardized, expensive residential areas (Ermacora & Bullivant, 2016). In Copenhagen, projects like CPH Village - old shipping containers or abandoned houses transformed into “cost-worthy co-living villages” (CPH Village, 2019) - were initiated in order to provide affordable accommodation for students. All of these and related projects raise the issue of ‘liveability’, along with the concerns for “the quality of modern life” (Pacione, 2003, p. 19) and the wellbeing of urban populations. Liveability is “becoming a luxury in many city centres, with surging property values pushing out the vast majority of residents in favour of the top 10%, who may have little vested interest in the well-being of their community context” (Ermacora & Bullivant, 2016, p. 62). On the other hand, rapid urbanisation made many countries more cautious about demographic changes in the city to be able to control the quality of life within urban spaces and appropriately manage urban planning processes.

Pacione (1990) defines liveability as a behavioural function of humans that measures their interaction with the environment in which they live. The notion of quality of life, in turn, refers to “the conditions of the [inhabited] environment [...] or some attribute of people themselves” (Pacione, 2003, p. 19), such as their educational accomplishments or health. Modern societies have come to the conclusion that quality of life does not necessarily stand for “a simple function of material wealth” (p. 19), but is dependent on a variety of social, political, cultural and environmental factors. Certainly, new collaborative placemaking strategies, engaging a multitude of urban actors and disciplines, are needed to ensure the liveable futures of cities. The “relationship

between people and their everyday urban environments" (p. 19) and the essence of the person-environment tie should be further explored.

The paradigm of placemaking has shifted from creating places that attract industries and employment, to shaping desirable spaces to live and work in (Ermacora & Bullivant, 2016). The key assumption is that contemporary urban spaces should be equipped with "qualities that make contexts highly liveable, with a positive atmosphere and amenities of a high standard" (p. 63). Affected by this imperative, various urban actor including governments, authorities, developers, architects, and community organisations, are now aiming at creating liveable spaces with a sense of community. Primarily, the built environment of today should be responsive to the diverse needs of urban populations (Pacione, 2003).

Machizukuri is a Japanese concept popularized in the 1990s that denotes "community-building movements" (Sorensen, 2006, p. 234) or placemaking practices based on community-building processes and activities (Ermacora & Bullivant, 2016). Machizukuri movement triggered the formation and revitalization of urban spaces and buildings, as well as prompted diverse "environmental remediation projects" (p. 63) in Japan. It has also inspired new models of urban governance, citizen participation, and new ways of seeing social capital, especially by prioritizing environmental management initiatives (Sorensen, 2006). The proliferation of socially inclusive urban planning practices provided the civil society with the sense of togetherness and made it open up for the discussions about possible urban futures

Jan Gehl takes "social sciences' methods [...] directly into the toolkits of architects and urbanists" (Ermacora & Bullivant, 2016, p. 26) and puts forth twelve quality criteria for the design of liveable public spaces (Gehl, 2010). The criteria are included within three broader categories: protection, comfort and enjoyment. First, the urban population should be protected from unpleasant sensory experiences, traffic injuries, as well as the harm that is caused by others, in order to enjoy the qualities of the city. Regarding comfort, urban spaces should be accessible, provide 'sitting options' and objects to lean on or to stay in, located in aesthetic and interesting places ('seeing options'), provide places where people can have an undisturbed conversation with one another, and options for play, exercise, and physical activities. The category of enjoyment includes three criteria, which are shaping of places on a human scale, providing options which enable people to enjoy positive, seasonally varied climate aspects, and creating spaces that are beautiful and aesthetically pleasing.

Pacione (2003) highlights three components that can be worked upon to successfully leverage urban liveability. Firstly, he asserts that "the subjectivity of objective [urban] environment" (p. 29) should be acknowledged.

Likewise, Ermacora and Bullivant (2016) emphasize that any participatory planning practices and philosophies that aim to improve urban quality of life should be adjusted to "the complex realities of the context" (p. 64) and be sensitive to the inherent "social psychology and cultural diversity" (p. 63) of a place. Secondly, Pacione (2003) mentions the necessity of public-private collaboration when leveraging academic research on liveability. Thus, both public and private agencies, as well as authorities, should work on developing communication channels to take full advantage of scientific findings and link them to policy objectives. Greater transparency in urban development and less opportunistic approach of placemakers enriches "the options and the ideation stages" (Ermacora & Bullivant, 2016, p. 65). For instance, stakeholders of urban design projects could contribute to the processes at any stage to help maximize possible results and community benefits (Ermacora & Bullivant, 2016). Urban changes supported by participatory methods can now leverage a variety of technology-driven platforms, using open source as the main facilitator of knowledge and information exchange between all actors concerned with particular projects. All such platforms and tools address the Bauman's challenge mentioned in *The Merits of Open Society* section. Finally, Pacione (2003) stresses the importance of interdisciplinary collaboration of social sciences. This relates to the multi-layered nature of the urban analysis, as human well-being and quality of life need to be understood from many angles, without being constrained by the view of a single discipline.

2.4.3 Technology to Act upon Foreseeable Urban Futures

a. Smart cities

'Smart city' practices are a concrete manifestation of the proliferation of technologies. The concept is, however, fuzzy and there is a plethora of 'smart city' definitions. Some of the working definitions of smart city revolve around the application of smart computing technologies to resolve imperative urban problems (Washburn, Sindhu, Balaouras, Dines, Hayes & Nelson, 2010), others emphasize the forward-looking performance of cities based on "the smart combination of endowments and activities of self-decisive, independent and aware citizens" (Giffinger & Gudrun, 2010, p. 13), and another group highlights technologies, such as the definition of Hall (2000), which describes smart city as the one where the conditions of key infrastructures are monitored and integrated in order to optimize the use of resources, establish preventive mechanisms, and maintain security while meeting the needs of the citizens.

Ermacora and Bullivant (2016) emphasize the difference between smart city comprehended as the expanding market of kit-products that can be used by cities to "manage and control energy use, traffic congestion, flood

alerts and public-services coordination in an integrated way" (p. 49), and as technology-driven empowerment of citizens. It has been a challenge to take advantage of smart city developments and maximize their utility while avoiding the hindering of citizens capacities to be active outside the parameters set by the owners or controllers of the networks and servers. Substantial criticism has been directed towards formal rules and politics which limit the ability of individuals to serve the community by using available data and deepen "democratic deficits" (p. 50) in many societies. The European Commission itself highlights the importance of cooperation between various actors throughout the whole Research and Innovation process when defining the notion of Responsible Research and Innovation (RRI) - the concept relevant in the theme of smart cities development (European Commission, n.d.-b).

Nonetheless, the tools being developed with the advance of wiki culture are currently granting the citizens and non-professionals with the ability to form relational networks, share knowledge and explore actions and proposals to handle the challenges of the smart city phenomenon. In the urban context, "atomisation of data intelligence" (Ermacora & Bullivant, 2016, p. 50) is capable of distorting traditional control mechanism due to the necessity to consider a broader array of participants in urban decisions. Since more stakeholders demand access to data sets of public interest, it is crucial to keep control on whether the pursuit of the commercial benefits of data access does not undermine urban quality management goals, citizen privacy and the basic principles of e-governance (Ermacora & Bullivant, 2016).

It is necessary to highlight that the realm of urban data should be carefully analysed in order to foster both the empowerment of the civil society and the operations of institutions which grant access and facilitate data-driven modernisation (Ermacora & Bullivant, 2016, p. 50). Collaborative urban planning practices demystify the objectives of the smart city and open "a can of worms" (p. 50). On the view of Ermacora and Bullivant (2016), arbitration is certainly needed to coordinate the interaction between relevant institutions, forward-looking civil society and corporate bodies in charge of data greeds.

b. New generation of scenario-based planning

'Scenarios' stand for representations of possible futures or "archetypal descriptions of alternative images of the future" (Rothmans & van Asselt, 1997, cited in Berkhout, Herting & Jordan, 2002, p. 87) that are based on mental maps or models which reflect various views and interpretations of past, present and future events. The multiplicity of futures implied in this definition highlights their groundedness in tacit ideas. Thus, even though

future scenarios can be based on theories, numbers and empirical models, they are also heuristic devices that "enable the 'making explicit' of mental maps in collective processes of deliberation involving both experts and other stakeholders" (Berkhout et al., 2002, p. 87). Scenarios can be utilized as powerful decision-making and problem-solving tools. Swart, Raskin and Robinson (2004) emphasize that scenarios facilitate knowledge integration, organised scanning of the future and embodiment of human choices in sustainability science.

Kishita et al. (2017) stress the fact that to build resilient futures backcasting approach to scenario analysis should be applied. Backcasting deals with the question on "how desirable futures can be attained" (Robinson, 1990, p. 822) and involves drawing pathways "backwards from a particular desired future end-point to the present in order to determine the physical feasibility of that future and what policy measures would be required to reach that point" (pp. 822-823). While designing backcasting scenarios for resilient futures of places, spaces, and cities in general, a collaboration of a multitude of actors, including authorities, policymakers, researchers, experts, and citizens, and participatory design methods are crucial to take full advantage of the richness of collective resources, as well as advance mutual learning and co-production of knowledge to shape shared future visions (Kishita et al., 2017). Additionally, backcasting fosters technological explorations and policy experiments that might lead to desired future outcomes.

Robinson (2003) calls for the 'second generation' backcasting scheme, where scenarios become emergent properties of the participatory processes that engage project stakeholders and the citizens. This approach is justified by its high social learning value due to the fact that emergent futures teach people on the implications of their choices related to achieving the desired future. Application of advanced technological solutions facilitates such a form of backcasting. Robinson (2003) gives an example of the QUEST models, which combine computer gaming with academic modelling systems, which allows project participants to "create and evaluate alternative scenarios of the future" (p. 846) and see the outcomes of their requirements and decisions. Likewise, MetroQuest engagement tool (Haas Lyons, Walsh, Aleman, Robinson, 2014) uses graphical depictions of policy choices which allows the users to see the tradeoffs of the choices they make and policy requirements they have. MetroQuest enables iterative creation of scenarios. Principally, tools like QUEST and MetroQuest enhance the knowledge of participants and improve the quality of inputs derived from public deliberation, which could build the foundation of desired future citizenship.

Chapter 3: Methodology

This chapter gives an account of the research design. The following sections include the description of the methodologies applied to collect primary and secondary data. The collection of primary data was inspired by the constructivist grounded theory approach (Charmaz, 2014). We start the chapter by laying the foundation of the grounded theory and its constructivist turn and subsequently present the reasoning behind the choice of research participants and the data collection method, meaning intensive qualitative interviews (Charmaz, 2014). Afterwards, we elaborate on the two stages of the coding process, theoretical sampling, saturation, sorting and theory constructing. The chapter ends with the characterization of the secondary data types and collection methods that we used for the purpose of the thesis. The literature review was performed to establish a conceptual framework for our research.

3.1 Primary Data

3.1.1 Constructivist Grounded Theory Approach

The research on collaborative urban design presented in this thesis is of a qualitative nature. Particularly, the constructivist grounded theory approach (Charmaz, 2014) inspired the qualitative analysis that was carried out by the authors. All grounded theory approaches provide "systematic, yet flexible guidelines for collecting and analysing qualitative data to construct theories from the data themselves" (Charmaz, 2014, p. 1). Practically speaking, the theory is grounded in the collected data. Grounded theorists interact with the data multiple times throughout the research process by iteratively moving back and forth between the data and analysis parts of their theoretical explorations. The constructivist turn in grounded theory, which we follow in this research, was proclaimed by Charmaz (2014) and combines the flexible, "inductive, comparative, emergent, and open-ended approach" (p. 12) distinctive for the original statement on grounded theory by Glaser and Strauss (1967), as well as the "iterative logic" (Charmaz, 2014, p. 13) proclaimed by Strauss (1987) as an attempt to loosen the conception of grounded theory. When conceptualizing the constructivist approach to grounded theory, Charmaz refers to the studies carried out by Clarke (e.g., 2006, 2007, 2012) who highlights the situational dependence of the research reality and the inputs that researchers and participants have in constructing that reality.

The key assumption of the constructivist grounded theory is that there are multiple social realities which are processual and constructed, and both the researcher and the participants shape the reality through their inputs, perspectives, and interactions. The constructivist approach highlights the construction of research while acknowledging the impact of place- and context-specific conditions on the shape of the theory that emerges. The word 'constructivist' suggests that we - as grounded theorists - had a substantial stake in the construction and interpretation of data, thus the theory that is an outcome of this research is subjective.

The qualitative data that we collected can be generally assigned with the following features. First of all, they focus on "naturally occurring, ordinary events in natural settings" (Miles, Huberman, & Saldaña, 2014, p. 11), meaning that they were collected from actors active on the collaborative design or urban planning scene in Copenhagen, which guarantees "local groundedness" (p. 11) of research participants and their experiences, and their "close proximity" (p. 11) to our theme of interest. Second of all, the data are rich and holistic since they are extracted from thick descriptions that reveal the complexity of the investigated theme, being "nested in a real [local] context" (p. 11). Third of all, the data were collected within a sustained period of ten weeks, which enabled a time-based analysis of collaborative design practices in Copenhagen and an assessment of causation (p. 11). The findings from the collected data are therefore representative for a certain time in history in the local setting of Copenhagen, and the degree of validity that can be assigned to them might change in the future.

The grounded theory that emerged from the collected data can be categorised as 'interpretive theory' (Charmaz, 2014), which goes in line with the constructivist approach that was taken. The interpretive theory implies an "imaginative understanding of the studied phenomenon" (p. 231), rather than an explanation of it. Being subjective researchers, we interpreted the subjective opinions of the interviewed actors, seeing truth as provisional, urban design reality indeterminate, fluid and emergent, and "social life as processual" (p. 231). The term 'subjective researcher' indicates the direct involvement of the research authors in the interpretation and construction of empirical data (p. 14). As suggested by Charmaz (2014), an attempt was made to investigate the interrelationships of facts and values, and to take into account the Danish cultural context when coming up with conceptual categories for the theory. The emphasis was put on understanding not only the interviewed actors but also the broader ecosystem in which they dwell. Additionally, other sources of data, such as company websites or printed materials shared by research participants, and theoretical concepts elaborated in the literature review influenced the constructivist theory presented in the discussion section.

3.1.2 Selecting Participants

Mechanisms and processes through which "structures, schemas, rules, and routines become established as authoritative guidelines for social behaviour" (Scott, 2004, p. 409) are studied by institutional theory. This theory is concerned with the question of how such systems are created and diffused, as well as how they degenerate and collapse. The selection of the participants for our grounded theory research had its foundation in institutional work approaches rooted in institutional theory. The concept of institutional work refers directly to purposive actions which lead to the creation, maintenance or disruption of institutions. As explained more thoroughly in the chapter on theoretical framing, institutions can be defined as "rules and shared meanings [...] that define social relationships, help define who occupies what position in those relationships and guide interaction by giving actors cognitive frames or set of meanings to interpret the behaviours of others" (Fligstein, 2001, p. 108). As our research was delimited to Copenhagen, we attempted to identify actors operating within the Danish institutional context - under Denmark-specific "mechanisms of control" (Lawrence & Suddaby, 2006, p. 216) - particularly in the fields of spatial and urban planning. This means that the meanings that the potential participants assign to the event, actions and processes could be connected to "the social world around them" (Miles et al., 2014, p. 11). Primarily, the key criterion was to find the actors devoted to participatory and collaborative processes and promoting democratic urban design, thus contributing to more inclusive development of cities by taking into account the inputs and views of diverse urban stakeholders.

Based on online exploration and an analysis of urban projects in Copenhagen, as well as being inspired by "It's Our Future" exhibition in the Danish Architecture Centre (DAC, 2019), we created the list of relevant actors in the city whose "experiences [could] illuminate the topic of our research" (Charmaz, 2014, p. 55). The extract of the list is presented in "Table of contacted organisations based on ecosystem mapping" (see Appendix A). By contacting the actors spelt out in the table and - further on - following referrals and recommendations of some of our interviewees, we closed the research with nineteen interviews with professionals representing architecture firms, design offices, academic institutions, consultancy companies, a philanthropic organisation, a non-governmental association, and the Municipality of Copenhagen. Most of the times, the recommendations regarding potential contacts given by the interviewees confirmed that our mapping of relevant actors was thorough, nonetheless, they also led us to the identification of new participants, such as CFBO or Everyday Studio, and complemented the findings in the compiled table. We talked to people of various backgrounds: seven architects and urban designers, eight social scientists, including sociologists, anthropologists, ethnologists

or ethnographers, social workers and researchers, and four environmental or urban planners. The majority of the interviews were of a face-to-face type which enabled us to grasp manifold nuances of the conversations, such as verbal and non-verbal cues. Eighteen hours and ten minutes of interview recordings were collected by the authors by the end of the research period. The final list of research participants and details on each interview can be found in Appendix B.

The architecture firms that we reached include 3XN, Henning Larsen, SLA, C.F. Møller, and Rambøll. 3XN was contacted due to its human-centric profile, meaning the belief that people should be placed at the heart of architecture (3XN, 2019). Henning Larsen is devoted to community-focused architecture and is experimenting with a "web app [solution] using 3D building renders" (Henning Larsen, 2019) that could democratize urban planning. SLA, in turn, specializes in landscape architecture and asserts that all of its projects are means to "put nature's processes into play" (SLA, 2019). The urban and spatial designs of SLA are carried out in tight-knit collaboration with clients and stakeholders. C.F. Møller is one of the leading architectural firms in Scandinavia and profiles itself as the company that tailors its design solutions to local contexts and puts a strong emphasis on the social value of architecture (C.F. Møller, 2019). Lastly, Rambøll is a Denmark-based multinational firm with the mission to shape sustainable places "where people and nature flourish" (Rambøll, 2019). Among others, Rambøll has been pursuing multiple social housing projects in Copenhagen with a focus on citizen involvement throughout the design process.

Five consultancy companies shared their insights for the purpose of this research. They are arki_lab, COurban Design Collective, CFBO, Social Action and Fjord. The three former organizations are urban consultancies that facilitate democratic design processes and strive for greater citizen involvement in urban decisions. Social Action has a broader focus on environmental and social challenges which aims to translate into everyday actions by educating the clients on how to approach citizens and user groups. Fjord is an innovation consultancy that redefined various industries through design thinking methods that highlight values such as collaboration, transparency, and empathy (Fjord, 2019).

Additionally, two design studios contributed to the research: Kollision and Everyday Studio. Kollision is based in Aarhus and was selected for the interview due to its specialization in "citizen participation in architectural projects and urban development" (Kollision, 2019), as well as past experiences in using 3D and gaming technologies in collaborative urban projects. Everyday Studio was founded by a former Gehl Architects

employee and stresses the co-creation of projects by different actors, seeing itself "as participating in a molecule, put together by equal elements set in system and structure" (Everyday Studio, 2019).

Four interviews were conducted with the members of the projects run within the programmes driven by the Municipality of Copenhagen. Three of them represented the area renewal projects carried out in tight cooperation with local inhabitants in different parts of Copenhagen - Kulbanekvarteret (Valby), Nordvest and Sydhavnen. The fourth municipality project is Sharing Copenhagen which invites the citizens to co-create the harbour area and provides funding for bottom-up initiatives of the citizens that align with the municipal strategy for harbour development. The research was also complemented by the insights of Realdania and UngEnrgi. The former one is a philanthropic organisation that supports the built environment projects which have the potential of improving the quality of life in urban and countryside areas (Realdania, 2019). The latter is a youth association that mobilizes people to act collectively towards the sustainable future (VedvarendeEnergi, 2019). A member of the academic community, representing Roskilde University, who researches the topics of citizen involvement, co-creation and public value creation (RUC, 2019) was also interviewed.

3.1.3 Qualitative Intensive Interviews

For the purpose of generating data for this research, we decided to carry out semi-structured 'intensive [qualitative] interviews' (Charmaz, 2014), which stands for "gently-guided, one-sided conversation[s] that explore research participants' perspective on their personal experience[s]" (Charmaz, 2014, p. 56) with participatory practices in their respective fields and organizations. Qualitative, grounded theory research is well-supported by the intensive interviewing form that creates an "interactional space" (p. 57) between the interviewers and the participants, as well as facilitates an open-ended and unrestricted exploration of the investigated theme. Conducting interviews in that manner provided us with flexibility and let us exert greater control over the emergence of theoretical ideas which were further explored in the findings and discussion sections.

After preparing the list of potential research participants, the interview guide (see Appendix C) was constructed, to set the key "domains of inquiry" (Charmaz, 2014, p. 63) and cover the most fundamental issues during each of the interviews. Interview questions were also expected to foster the pursuit of new, unanticipated directions in the research. The set of questions prevented us from becoming derailed when the interviewees were wandering in the expressed opinions and shared stories. The guide served as "a flexible tool to revise" (p. 62),

as it was modified several times due to reflections upon the research direction that we had after proceeding with the actual interviews. Thus, the interviewing in which we engaged process was highly iterative.

Prior to every interview, we attended to getting familiar with the language of the interviewees and their organisations. As emphasized by Charmaz (2014), "knowing or just identifying some of your prospective participants' key terms in advance" (p. 61) might facilitate quality conversation and enable the interviewer to enter "the participant's world of implicit meaning" (p. 98). The first few interviews made us write our early 'memos' - which stand for "preliminary analytic notes" (Charmaz, 2014, p. 4) - meaning take up theoretical sampling that enabled us to "assume a more active role in the [subsequent] interview[s] and ask more direct questions" (p. 85) related to specific concepts and areas of interest. Throughout the whole research process, we engaged in co-construction of theory with the participants, by bridging "their experience with our research question" (p. 100). We realized that the majority of the interviewees did not only claim or explain their viewpoints and justify actions but also tried "to understand what is happening" (p. 85) in the field of participatory space- and placemaking.

The relatively high number of interviews that we conducted is justified by a multitude of potential research participants that we identified and our personal "openness to learning about the empirical world" (Charmaz, 2014, p. 106) relevant to our thesis. The heterogeneity of identified actors active in the urban participatory innovation field, along with the diversity of experiences and competencies that they embody, made us also expand the number of interviews. Moreover, as collaborative design theme is complex and touches multiple facets of urban life, such as political, social, cultural, environmental and economic, we assumed that a high number of interviews would help us approach the topic in a more holistic and comprehensive manner. All the interviews were recorded and transcribed (see Appendix D) in order to both preserve details and understand how the interview content was constructed by us - the researchers - and the participants. We ceased the interviewing process after reaching the saturation point in data collection, meaning when the new incoming data did not alter the identified themes substantially. The pursuit of the conceptual categories and theory is the subject of the following subsections.

3.1.4 Initial and Focused Coding

Coding forms an essential connection between the processes of data gathering and constructing a theory to describe this data (Charmaz, 2014). "Through coding, you define what is happening in the data and begin to

grapple with what it means" (p. 113). We started coding the first set of interviews in the midst of the empirical data collection, in consonance with the systemic methodology of grounded theory. Coding necessitates 'analytic questions' (p. 109) to study the collected data and to lead the subsequent research to gather more specific data. While coding the interviews, gaps in our research revealed, which set the directions of key inquiries in the subsequent interviews. In our research, the coding process had two phases: 'initial and focused coding' (Charmaz, 2014) or 'first cycle and second cycle coding' (Miles et al., 2014).

According to Charmaz (2014), during the initial coding, the building elements of the collected data (words, lines, phrases) should be approached with the desire to gain a thorough understanding of the material. "Initial coding continues the interaction that you shared with your participants while collecting data but brings you into an interactive analytic space" (p. 109). The process of coding embodies the action of naming the components of the gathered data (i.e. transcribed interviews) and concurrently categorise and define each fragment of them. The codes are "most often a word or a short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data" (Saldana, 2013, p. 3). The purpose of this stage is to analyse the data by focusing on smaller fragments and to gain a profound understanding of them. "Coding is deep reflection about and, thus, deep analysis and interpretation of the data's meanings" (Miles et al., 2014, p. 72).

The emerging codes "show how you select, separate, and sort data and begin an analytic accounting of them" (Charmaz, 2014, p. 111). Charmaz (2014) emphasises that it is the researcher who constructs the codes by naming the data, therefore the codes fail to capture the empirical reality. The author implies, that the codes reveal the view of the researcher as the one being accountable for choosing the words. Miles et al. (2014) assert that codes, fundamentally, are used to group similar data fragments in order to ease data treatment later in the research and "[...] cluster the segments relating to a particular research question, hypothesis, construct, or theme. Clustering and the display of condensed chunks then set the stage for further analysis and drawing conclusions" (p. 72). There are various coding strategies for creating an analytical frame and coding serves as an instrument for "interrogating, sorting, and synthesizing" (Charmaz, 2014, p. 113) data.

According to Miles et al. (2014), one method for creating codes is the deductive approach which rests upon establishing a starting inventory of codes prior to fieldwork. Some of the key areas that shape this inventory are the conceptual framework and the research topic. Inductive coding implies the emergence of codes during data collection, which makes them more justified empirically as they prove the openness of the researchers to

new discoveries. On the word of the authors, qualitative researchers become "open to what the site has to say rather than determined to force-fit the data into pre-existing codes" (p. 81).

In our research, the first initial coding was conducted to establish the foundation of our common understanding of coding practices. We aimed for inductive code creation to improve our openness to the data, therefore we did not establish an initial set of codes. To facilitate the coding process, we used NVivo[16]. Out of other coding methods, we found that the most adequate form is 'process coding', which means the exclusive use of gerunds "to connote observable and conceptual action in the data" (Miles et al., 2014, p. 75). Few examples of the created codes include: 'Activating people', 'Competing for citizens' attention', 'Using games in co-creation'. According to Charmaz (2014), the analogous line-by-line coding is a heuristic approach that places the researcher into the data, "helps to define implicit meanings and actions, gives researchers directions to explore, spurs making comparisons between data, and suggests emergent links between processes in the data to pursue and check" (p. 121). The collection of our initial codes also included some nouns, such as 'Bias in public deliberation', 'Gentrification', and 'Regulation'.

In line with the assertion of Miles et al. (2014), during the empirical research process, we realized that "several codes change[d] and develop[ed] as field experience continue[d]" (p. 82). In NVivo, these amendments were easily implemented. The software offered a convenient way to tag the fragments of text with multiple labels[17]. By the end of the initial coding of the nineteen interviews, we counted five hundred and five codes (see Appendix E). A large number of codes necessitated further grouping of the codes in the second cycle or focused coding (Charmaz, 2014), to identify certain categories and recurring themes. Primarily, this process enables the researchers to investigate the directions the research takes. It is acknowledged by Charmaz that "while engaging in focused coding, we typically concentrate on what we define as the most useful initial codes and then we test them against extensive data" (p. 138). Focused coding embodies the usage of the most important and/or the most frequently repeated codes to scrutinise a great amount of data. This process requires the researchers to determine which "initial codes make the most analytic sense to categorise [their] data incisively and completely" (p. 138). As Miles et al. (2014) also argue, the selection process results with "coding [the] initial codes" (p. 138), interacting with the data and the codes while exploring what kind of analytic story lies behind these codes and what mechanisms they tell about. As Charmaz (2014) suggests, possessing the focused codes enables the

[16] NVivo 12 was used, which is a Computer Assisted Qualitative Analysis Software (CAQDAS).
[17] Such practice is termed as 'simultaneous coding' (Miles et al., 2014, p. 86).

researchers to move to the subsequent stage of finding patterns in the codes. Miles et al. (2014) refer to this process as the emergence of pattern codes which unfold from recurrently observed actions and norms.

Charmaz (2014) advocates that taking informal memos of analytic ideas, triggered by being in the interview settings, guides the consecutive interviews and encourages slight amendments in the interview questions. Preparation of memos starts with writing about the data and the codes and continues with noting ideas about the theoretical categories during the entire research. "Memos are typically a rapid way of capturing thoughts that occur throughout data collection, data condensation, data display, conclusion drawing, conclusion testing, and final reporting" (Miles et al., 2014, p. 96). Memo-writing fostered our interaction with the collected data and with the emerging analysis. Furthermore, the practice of memoeing inspired ideas to be investigated in the field setting, deliberated us from forcing data into existing concepts, encouraged innovative concepts and novel connections, revealed new relationships between categories, and helped us "discover gaps in [our] data collection and link data-gathering with data analysis and report writing" (p. 183).

3.1.5 Theoretical Sampling, Saturation and Sorting

After establishing preparatory categories, we proceeded with theoretical sampling (Charmaz, 2014). As soon as we defined "the categories constituting [our] theory" (p. 193), theoretical sampling helped us to "check, qualify, and elaborate the boundaries of [our] categories and to specify the relations among categories" (p. 205). This process drew our attention to the flaws of the codes or categories and encouraged us to thoroughly reconstruct the hierarchy of the groups of codes. "Grappling with analytic problems is part of the research process. Feeling confused and uncertain - but learning to tolerate the ambiguity - shows your growth as a researcher" (Charmaz, 2014, p. 212).

NVivo sets certain obstacles for researchers as it disables parallel work of multiple users on one project. Therefore, as we proceeded with the coding, we regularly synchronised the working files to obtain a master file that consolidates the work performed by each researcher and includes a complete and up-to-date collection of codes. The practice of harmonizing the codes revealed that many codes and references carry similar information, thus different codes could be merged into one category. The interviews conducted at the end of the research period repeated the already known data and did not provide novel insights. Consequently, we acknowledged that the saturation point in data collection was reached. Charmaz (2014) suggests ceasing data gathering when the data reaches 'saturation'. "Categories are saturated when gathering fresh data no longer sparks new

theoretical insights, nor reveals new properties of these core theoretical categories" (p. 213). To continue the organisation of the analysis, the grounded theory suggests 'sorting', which is "a way of creating and refining theoretical links that prompts [the researchers] to make comparisons between categories." (p. 216). By the end of the second cycle coding, we counted four hundred sixty-four codes, included in five major categories ('Understanding co-creation', 'Ecosystem dynamics', 'Human-centered design', 'Organising co-creation and working with clients' and 'Liveability, sustainability and futures'). Within the five major categories, we identified twenty-three subcategories, which we grouped into eleven topics, including twenty-four subtopics.

3.1.6 Constructing Theory

Miles et al. (2014) claim that constructing a theory necessitates formalization and systematization of the thoughts and analytic reflections of researchers triggered by the practice of coding and memo writing. The authors suggest creating "a coherent set of explanations" (p. 99) in the form of assertions and propositions. Assertions refer to declarative statements backed by "confirming evidence (p. 99) or revised based on "disconfirming evidence" (p. 99) from the data collected throughout the research process, while propositions stand for predictions or theories of an "if-then or why-because" (p. 99) nature. By deeply studying the categories distinguished in the NVivo project and reviewing the collections of interview fragments embedded in the codes, we identified key quotations which served as confirming evidence for the assertions and propositions made in the discussion. Categorized fragments of interview conversations were first compared in the findings chapter in order to identify common and conflicting viewpoints among research participants. Such comparative work was later on balanced against chosen theories and concepts laid down in the literature review, which strengthened the key assertions and propositions of the research. Generating assertions and propositions allowed the authors to recapitulate and synthesise a large amount of empirical data, particularly transcribed conversations as well as "individual analytic observations" and notes (p. 100).

3.2 Secondary Data

Charmaz (2014) suggests that performing the analysis directs the evaluation of earlier research concepts and theories and enables the researchers to compare these pieces of information. Therefore, it is essential to design

a literature review and a theoretical framework in a manner that goes in line with the grounded theory approach. “The literature review and theoretical framework are ideological sites in which [the researchers] claim, locate, evaluate, and defend [their] position” (p. 305).

In our ‘exploratory literature review’ we aimed to investigate “what actually exists in the academic literature in terms of theory, empirical evidence and research methods” (Adams, Khan, Raeside, & White, 2007, p. 57). Primarily, we used articles published in academic journals and academic books from the fields of social science, architecture and design. We explored the databases and the bibliographic collection of the Library of Copenhagen Business School and the Copenhagen-based Library of Architecture, Design, Conservation & Performing Arts. According to Adams et al. (2007) “articles published in referred journals tend to be the most reliable” (p. 58). To identify authors who elaborated on the themes relevant to our thesis we consulted the reference lists enclosed at the end of academic articles and books that we used. This practice proved beneficial in drafting a ‘road map’ of the repeatedly cited academics and articles and outlining the form of our literature review. The articles, reports, books, and other sources of the theory were collected in a shared project workspace in Zotero in order to organise, tag and comment on the materials.

As acknowledged by Adams et al. (2007), constructing a conceptual framework and familiarising ourselves with relevant theories are vital to guide the data collection process in a manner that enables the authors to comprehensively answer the research questions. Reviewing the theories connected to our research topic revealed gaps in our initial understanding of participatory urban planning and collaborative innovation fields and prompted constant evaluation and re-development of our research question, so as to “fill a gap in knowledge identified in the literature” (p. 54). Writing the literature review enabled the authors to link our empirical work to the existing studies in the field, relate the specific questions to the larger subject area and to compare our findings with the findings of other researchers (Adams et al., 2007).

Chapter 4: Findings

The following chapter presents the findings from the empirical research. The results are presented in six sections and the chapter closes with a table that encapsulates the key insights and displays the comparison between the information collected from each research participant.

4.1 Understanding Co-Creation

4.1.1 Benefits of Co-Creation

A number of interviewees emphasized that co-creative practices lead to better designs and architecture. This is because by consulting projects with the citizens, experts "get [valuable] knowledge of the locals" (K. S. Nielsen, personal communication, May 29, 2019), meaning the inputs of the actual users of architectural solutions which make the design process more fruitful, as stated by C. J. Hansen (personal communication, May 6, 2019) working as an anthropologist at SLA. K. S. Nielsen from CFBO complemented this view by stating that such knowledge is context-relevant and difficult to grasp by experts themselves. Citizen participation results with the creation of better cities exactly because "[those participating] citizens have to live in them" (T. F. Delman). Likewise, A. S. Hansen, the leader of Nordvest area renewal project, agreed that the co-created architecture is much better as it is "well-defined, tested, and discussed" (personal communication, April 26, 2019) with the locals. O. N. Henriksen from 3XN highlighted that citizen inputs enable architects to "be more precise about what [they] design [...] and what people wish for a new space" (personal communication, April 29, 2019), which affects the long-term quality and usability of architecture. Similarly, T. M. Sørensen stressed the usability value of the outcomes of the participatory design, while M. Holm mentioned that user participation helps to shape places that people want and need.

Additionally, C. J. Hansen recognized that co-creation activates 'creative innovation' and 'rational innovation':

> Co-creation is really important to build innovative solutions that really work and have an effect. And also to innovate in real life [...]. If you sit in an office and you only develop things without even considering the somehow irrational practices of everyday life, believes and values, you don't really get much effect, no matter how visionary your idea is. [...] A lot of innovation and improvement come from very small

adjustments in people's everyday life. [...] If you build on that, you can really create something that has a lot of power.

Another benefit of co-creation is purely economic, as highlighted by E. Arin from arki_lab. By making what people want urban planners connect the space to local needs and "don't have to rethink, rebuild or [...] lose money on [the space]" (E. Arin, personal communication, May 2, 2019). The feeling of ownership and connection with space or architecture constitute other payoffs of co-creation, as pointed by the interviewees from Rambøll, CFBO, arki_lab and Everyday Studio. As framed by E. Arin, "it's about bridging the spaces people live in and their production of it". Apart from ownership, co-creation makes people care more, as stressed by K. S. Nielsen and L. Skaufel. "[People] care more on two levels - they care for each other, because they meet in these processes and it's quite social, and then they get knowledge about what is going on" (L. Skaufel, 2019).

Creating networks and bonds - social, political or economical - between people is another frequently mentioned co-creation benefit. Co-creation brings together people who would normally not interact, fosters their mutual understanding (E. Arin) and strengthens communities (R. Fazekas, personal communication, April 30, 2019). This viewpoint was expressed by the interviewees from CFBO, Social Action, Sydhavnen and Nordvest projects, too. "The non-quantifiable value - the immaterial [value] of creating networks within people, giving people more power and empowerment" (E. Arin) is relevant. The notion of empowerment was emphasized by the representatives of the aforementioned projects and companies' multiple times. Co-creation practices are believed to encourage "the next generation to be [...] an active part of their surroundings, [...] their architecture, [...] new designs, and their cities" (E. Arin).

4.1.2 Challenges and Limitations of Co-Creation

a. Defining co-creation

Research participants highlighted the multitude of 'co-creation' definitions. Ø. Leonardsen (personal communication, May 6, 2019) from Sydhavnen project comprehends co-creation in biological terms as "the miracle of evolution: when the one-cell individual started to co-create then life as we see it started. [...] It's [...] rooted in the global DNA - that if we don't co-create nothing happens". A. Agger (personal communication, April 3, 2019) from Roskilde University explains this idea of co-creation in the urban context, saying that "the

public sector should not implement solutions alone [...] [without] broaden[ing] the energy and the thoughts and consideration of other actors that are present in [a] particular locality".

B. Werner (personal communication, May 16, 2019) from COurban Design Collective, T. M. Sørensen (personal communication, May 28, 2019) from Rambøll and M. Holm (personal communication, April 11, 2019) from Kulbanekvarteret project distinguished between participation or involvement and co-creation. At Rambøll user involvement is a primary practice because "co-creation [...] is [understood as] working side by side. It's very intertwined cooperation" (T. M. Sørensen). Likewise, B. Werner sees the fluid line between co-creation and participation, recognizing co-creation as "a higher instance of participation that [...] requires much more involvement from the citizens", throughout the entire project and process. M. Holm called for more "real" or active co-creation initiatives and real user involvement, and so did inquire T. F. Delman (personal communication, April 23, 2019) from Kollision design office, who admitted that co-creation is often equalized with communication projects. Additionally, Ø. Leonardsen emphasized that co-creation should be seen and approached through different strata as it might be enacted on the community, city, national or global level.

b. Regulatory perspective on co-creation

Several interviewees acknowledged that there is no formal agreement on what co-creation in an urban context means. As mentioned by B. Werner, there is a law in Scandinavia that demands participation to be included in every urban and public project, nonetheless, it lacks specifications on the degree of required involvement. Therefore, to ensure a greater proliferation of "participation or co-creation in terms of the built environment, we actually need to change that prerequisite [...] and be able to affect how the competitions are laid out for people" (B. Werner). B. Werner implied that cities are not specific enough about the co-creation aspects they require and there is a need for the amendment in the binding legislation.

T. F. Delman and E. Arin talked about the outcomes of no formal co-creation requirements. Many companies and projects approach co-creation as a "checkbox" activity, having no real citizen engagement but rather passive co-creation (E. Arin). T. F. Delman points at low interest of "developers, politicians and public officials in engaging the citizens". "It is something they [...] want to say they did but they don't really want to do it" (T. F. Delman). Additionally, T. Lau (personal communication, May 8, 2019) stressed the problem of competitions that engage multiple partners and related lack of formal requirements concerning the commitment of partners towards the co-creation goal after the competition case is solved.

c. Balancing different interests

M. Holm and A. S. Hansen recognized the complexity of working with citizen groups in area renewal projects. Likewise, E. Arin assumed that "whenever people are involved, [the process] gets more complicated". Creating a process where everybody has a say poses the challenge of dealing with a "mix of emotions and arguments" (T. F. Delman) and "points of views" (Ø. Leonardsen) of a multitude of actors, including "citizens, architects, politicians" (T. Lau). While sharing the experience in Nordvest, A. S. Hansen emphasized that the needs of different community groups ought to be "combine[d] and twist[ed]" in order to achieve balanced project solutions. Conflicts can appear in both citizen-to-citizen and expert-to-citizen dialogues.

Co-creation is "a puzzle of figuring out what the prioritizing is" (T. M. Sørensen). The process should, however, prioritize "what makes sense for the majority of people" (K. S. Nielsen) and the community (C. J. Hansen). Achieving such balance is difficult as co-creation often happens within certain formal frameworks set by most powerful actors - a housing association or municipality - which might conceive resistance among the citizens (C. J. Hansen). Experts and authorities show the tendency to overrule the projects (B. Werner; E. Arin; T. F. Delman): "If you are an expert you tend to lead with arguments [...] [on] why things should be a specific way [...] [and] overrule citizens who might be more emotional about the city" (T. F. Delman). Moreover, A. S. Hansen recognized that many architects with a traditional design approach are uncomfortable with sharing the process with non-experts. The citizens, in turn, tend to express "the feeling of deserving something" (C. J. Hansen) and "customer-deliver thinking" behaviours (Ø. Leonardsen), which contradicts with the goals of experts.

It is a hurdle to create a format for mutual understanding (C. J. Hansen) amongst the actors, explain urban decisions from multiple points of view (K. S. Nielsen) and prioritize future benefits over the fulfilment of short-term needs (T. F. Delman; T. M. Sørensen). What is missing in the urban planning context is the "unbiased field for [...] people to actually engage with each other and discuss the city" (T. F. Delman), meaning "an open environment that works for people" (H. Lund, personal communication, May 6, 2019)

d. Communication between stakeholders

The pace of urban expansion and proliferation of modular buildings make it difficult for citizens to keep track of new developments (M. E. Steenberg, personal communication, April 29, 2019). The planning of urban constructions often gets round with citizen involvement (R. Marsh, personal communication, May 2, 2019). On the other hand, many interviewees affirmed that when the dialogue between urban planners and citizens is

initiated, its language involves “planning codes” (B. Werner), extensive documents (M. E. Steenberg) or architecture drawings and spatial sketches (C. J. Hansen), not easily understandable by non-experts. As emphasized by B. Werner, it is crucial “to be able to talk at eye level with people”.

Besides, projects are often communicated in the post-design phase, when fixing any design element based on citizen feedback is complicated and costly, as said by M. E. Steenberg, an architect at Henning Larsen. M. Holm stressed the difficulties of multi-stakeholder communication and assumed that it is crucial “to be on location with communication” to make all project particularities clear for everyone. Poor project communication oftentimes leads to citizen complaints (M. E. Steenberg). M. E. Steenberg highlighted that asking citizens for opinions was usually not enough, as they were unaware of “the consequences of different design choices”. He acknowledged that urban planners and designers should make sure that people understand how those choices affect them to secure constructive feedback.

T. Lau, T. F. Delman and E. Arin emphasized a lack of transparency among urban developers and planners, which dissolves and hinders access to critical urban knowledge. “There is more trend towards good design and citizen engagement [...] [but] a lot of municipalities and design firms [...] make this an in-house service” (E. Arin). T. F. Delman certified that “all the data is there[...] but it’s not connected in one model for ordinary users”. Likewise, L. Skaufel from Everyday Studio indicated that architects often lack access to necessary public data.

e. Involving citizens and sustaining engagement

T. F. Delman put forth five steps that need to be addressed in participatory processes, embedded in the AELIA model. The first challenge is to get the citizens ‘attention’ - “get people to show up in the process” (T. F. Delman). Getting the attention of different social groups, including minorities or disadvantaged people, requires different methods (A. S. Hansen), different channels (C. J. Hansen; R. Fazekas; T. Lau) and different urban experiments (T. F. Delman) to be applied. Attention is often about motivating people, “creating a carrot for them” (S. Brunvoll, personal communication, May 3, 2019) or explaining why the project or their engagement is important (R. Fazekas; S. Brunvoll).

Participatory processes need to provide “‘experience’ that is so compelling that it can compete with all the other experiences that [people] fill [their] lives with” (T. F. Delman). ‘Experience’ is the second step of the AELIA model. Then comes the ‘learning’ aspect as participants need to become experts, meaning understand the rules, what they can do and what project facilitators can do, “so [they] don’t design something completely unrealistic”. Only

then they should 'influence' the project. Lastly, having all the data collected throughout the previous steps should be put into 'action'. "You have to think about how [you] actually motivate both the citizens and everybody around them [...] to take action on the data, [...] [and] influence the real city through [your] data" (T. F. Delman). Likewise, R. Fazekas emphasized that the challenge is to make participatory practices sustainable in the long-term. As commented by T. M. Sørensen, "the whole involvement is quite important not only for the design but also for the transition of taking over space", meaning how space is going to be managed after the closure of the project.

Several interviewees emphasized the problem of identifying who should be engaged when developing a new uninhabited area or a building. O. N. Henriksen and R. Marsh assumed that when there is no knowledge on who is going to live in a constructed place, it is not possible to talk to the end-user. B. Werner, in turn, assumed that such knowledge is accessible and potential users can be always recognized, depending on the motivation of investors: "You can't co-create with people who live [in new places] but you can co-create with people who are in a very similar position to those who will live there".

It is highlighted by research participants that "there are always people who [they] can't engage" (E. Arin) or who "don't have an interest [...] in being involved" (C. J. Hansen). Nonetheless, engagement of a large number of people for the sake of having a democratic project should not be a goal, but rather the creation of the best solution possible for everyone, as stressed by C. J. Hansen. If the project scope embraces a large group and only a fraction of it has time and willingness to participate, then the challenge for designers and planners is "to figure out why or how [the fraction] is representing [the whole]" (T. M. Sørensen). "You [often] lack some participants [...] [thus] you lack information on what they need or what their wishes are" (T. M. Sørensen). Finding "a motivated human resource" (R. Fazekas) and engaging a diversity of stakeholders (M. Holm) is challenging. People need to "be pressed to engage" (M. E. Steenberg) and often do not react until they see "a finished project that [...] threaten[s] their way of living" (T. F. Delman).

f. Managing citizen inputs

Many of the interviewees indicated that not all citizen ideas can and should be implemented. There is a lot of "noise" in public deliberation and citizen input is often unconstructive (M. E. Steenberg; O. N. Henriksen). Non-expert participants come up with a lot of misinformed ideas (R. Marsh; T. F. Delman) and some of them openly express a lack of knowledge about discussed issues (L. Skaufel). Likewise, engaging children into projects might

bring a substantial amount of irrelevant inputs (B. Werner). Moreover, A. Agger challenged the quality of social media deliberation, seeing many of shared opinions as biased.

Urban planners, architects and designers face the tasks of consolidating thoughts and ideas of citizens (S. Brunvoll), screening through them (M. E. Steenberg), finding patterns in collected data (S. Brunvoll), balancing conflicting views and deciding what to prioritize (K. S. Nielsen). "We sort out what is relevant and that is what we carry on to the vision of the project" (B. Werner). It is also essential to identify who are the people who express their opinions, especially in the case of online participation (K. S. Nielsen). Data treatment can be perceived as the process of finding a balance between the inputs (M. Holm) and facilitating the outcomes of participatory processes (E. Arin). It is "not necessarily elimination [of data] but [...] figuring out the essence" (E. Arin).

S Brunvoll from Fjord, K. S. Nielsen from CFBO and E. Arin from arki_lab accentuated the fact that co-creating with a large group of people increases complexity and required data management efforts, and does not guarantee better process outcomes: "It is not so important to talk to the big critical mass" (S. Brunvoll). E. Arin is also of the opinion that involving people throughout the whole process brings better inputs and advises to avoid "one-time engagement[s]". C. J. Hansen stressed the problem that citizen involvement "is often an end in itself and the insights [...] are not [always] implemented in the design". Urban planners and designers often fail to channel citizen inputs into designs (C. J. Hansen) and translate them into knowledge that brings social and economic benefits (E. Arin).

g. Evaluating projects

Some of the research participants considered project pre- and post-evaluation a relevant step in the participatory process. M. E. Steenberg and T. F. Delman indicated that every project facilitates the collection of knowledge and feedbacks that could benefits future projects. S. Brunvoll emphasized the urge of having impact measures in consultancy businesses and highlighted the challenges of identifying proper measures: "It is not that easy to show impact, so we always try to come up with other impact measures, which are usually not quantitative but qualitative. [...] Also sustainability or social impact - their value is very much context-related, and you can't really measure it. Everything depends also on the challenge statement and your goal." None of the interviewees talked about specific or systematic evaluation methods applied in collaborative design, nonetheless, the need for introducing evaluation measures was highlighted several times. T. M. Sørensen

stressed the fact that “getting some kind of pre-evaluation and post-evaluation of the project” could facilitate learning within design teams and corrections of design elements. Likewise, M. E. Steenberg accentuated the importance of timely evaluation of projects prior to implementation.

4.2 Collaborative Urban Ecosystem

4.2.1 Interactions within the Networks

a. Building knowledge

Several interviewees confirmed that every participatory project generates knowledge relevant in the urban development arena (C. J. Hansen; E. Arin; T. F. Delman). “We accumulate a little bit of intelligence in our planning through every step we make” - stated T. F. Delman from Kollision. T. F. Delman believes that urban planning is “a tool that [...] [amasses] best practices” in the field. Apart from grounding the design process on the precepts of local research (C. J. Hansen), some interviewees affirmed that substantial knowledge is produced internally, through in-house research and development units. SLA runs the sLab to expand expertise within relevant fields, such as “urban nature, ecosystem services [and] dynamics of water” (C. J. Hansen). Likewise, Fjord invests in Fjord Evolution department to foster learning and education on co-creation in and outside the office (S. Brunvoll), while 3XN has an innovation unit called GXN that researches and evaluates architectural projects and how they influence human behaviours (O. N. Henriksen). Additionally, Henning Larsen, 3XN and Realdania invest in PhD-based research (H. Lund; M. E. Steenberg; O. N. Henriksen).

Both external knowledge and experience sharing and their internal circulation were highlighted by research participants. C. J. Hansen acknowledged “the responsibility of sharing [data] with all employees so the knowledge is always circulating within the office”. External knowledge sharing is enacted via the preparation of co-creation manuals (A. Agger), communication campaigns and videos (A. S. Hansen; B. Werner), publishing of research papers and documentation, as well as running masterclasses and seminars to share the knowledge about the city and the approach to urban design, and teach methodology (B. Werner). The leaders of the Municipality-based area renewal projects exchange experiences and methods between one another and within European networks (A. S. Hansen; M. Holm; Ø. Leonardsen). A. S. Hansen and Ø. Leonardsen emphasized the replicability of utilized co-creation methods in other contexts and neighbourhoods. Nevertheless, T. F. Delman

indicated that despite information sharing practices “a lot of knowledge [built up over thousands of years of urban planning] is lost between generations”.

b. Leveraging connections

All of the interviewees pursue projects in collaboration with other actors. A. Agger called for “broaden[ing] the concept of stakeholder in terms of co-creation or co-production through stakeholder involvement”. Other than citizens, the stakeholders cooperating with the research participants involve urban and landscape architecture firms (A. S. Hansen; B. Werner; C. J. Hansen; E. Arin; K. S. Nielsen; L. Skaufel; M. Holm; R. Marsh; Ø. Leonardsen), consultancies specializing at citizen participation, capable of coordinating the co-creation process (C. J. Hansen; H. Lund; L. Skaufel; M. E. Steenberg; M. Holm), social organisations and foundations (B. Werner; H. Lund; R. Fazekas), locally-situated urban designers (E. Arin), entrepreneurs (E. Arin; H. Lund; K. S. Mikkelsen, personal communication, May 3, 2019), artists (A. S. Hansen; M. Holm; Ø. Leonardsen), local social projects, youth clubs, schools and universities (B. Werner; M. E. Steenberg; M. Holm; Ø. Leonardsen), and municipalities (A. S. Hansen; B. Werner; H. Lund; K. S. Mikkelsen; K. S. Nielsen; M. Holm; Ø. Leonardsen).

According to A. Agger, working on public projects requires mindful involvement of a multitude of actors to recognise different perspectives and opinions, and “qualify the best kind of solutions”. Realizing multiple perspectives is especially important in large-scale urban projects holding high analytical complexity regarding different segments or aspects embedded in the city context (R. Fazekas). Big projects cannot be pursued “single-handedly” (Ø. Leonardsen) as their vision needs to balance the viewpoints of all relevant stakeholders (E. Arin).

Multi-actor collaboration is often necessary to nurture the complementarity of skills in project teams. Stakeholders “can contribute much more if they go together” (K. S. Mikkelsen) towards shared goals. “Different kinds of professionals and different [...] qualities [are needed] to co-create a solution” (Ø. Leonardsen). B. Werner believes that best products can be obtained by “pull[ing] on each other’s strengths” in collaborative projects. Besides, K. S. Mikkelsen from Sharing Copenhagen stressed the importance of facilitating connections between actors, broadening their networks and mapping potential collaborators. Likewise, Realdania highlights the creation of connections between activities and people in project locations: “We don't give grants before we believe that there are enough people engaged and they have an idea about the economy [of the place]” (H. Lund).

4.2.2 Political Aspects of Urban Developments

a. Fostering democratic values and empowerment

H. Lund indicated that power should not be the aim of stakeholders engaged in participatory processes: "Co-creation is [...] where your involvements are not stronger than the makings of the people and other actors who should actually fill out [...] the urban square or the building". An open dialogue between urban stakeholders (H. Lund) and the shift away from the traditional top-down planning approach (A. S. Hansen) are enacted through citizen empowering ambitions, such as inviting local people to a project advisory board and council meetings (A. S. Hansen; E. Arin; M. Holm; R. Marsh), acknowledging local needs in urban developments (A. S. Hansen), introducing citizen view in the plans of private investors and politicians, supporting bottom-up initiatives (H. Lund; K. S. Mikkelsen), uplifting underdeveloped areas and disadvantaged neighbourhoods (A. S. Hansen; M. Holm; Ø. Leonardsen), and encouraging public engagement of the "people with the feeling of insecurity" (A. S. Hansen). Additionally, T. M. Sørensen elaborated on the concept of 'residential democracy' which facilitates an adequate representation of neighbourhoods in social housing projects. H. Lund holds the belief that the potential of an area is "closely connected to the dreams or things people love to do" and not necessarily to the resourcefulness of the area.

Supporting individual initiatives of the citizens in Copenhagen is a common practice, according to several interviewees: "All of these actors are bottom-up. [...] they get some support and we have very few demands." (K. S. Mikkelsen); "[We] have an option that you can apply for money - [...] a small fund. [...] you can send an application to get 10,000 DKK or 40,000 DKK to make your own projects." (M. Holm); "We have given out fundings for some other groups that have been engaged in developing [some] parts [of the area]." (A. S. Hansen).

E. Arin acknowledged that participatory processes make the citizens, including the youth, realise their power to influence the surroundings: "We are trying to pull up the voiceless or the people whose voices are not represented in the communities". T. F. Delman emphasized that the essence of urban co-creation is not to "ask about something that is already decided [but] [...] about the values that we should found our cities on". Co-creation is seen as the means to fostering the democracy of the design process and making transparent decisions about urban futures (E. Arin). Several of the interviewees highlighted that forming "nice" urban spaces is not the primary goal (A. S. Hansen; H. Lund; M. E. Steenberg; M. Holm). As expressed by H. Lund, it is pointless to "make a nice frame if nobody wants to fill it out". Urban projects that give no ownership to people and ignore

the “knowledge on how [they] interact” (M. E. Steenberg) do not add lasting value to the communities, networks, and the social life of citizens (A. S. Hansen).

b. Founding cities on non-democratic values

It was emphasized multiple times that participatory practices, despite their inclusive value, might embed non-democratic aspects. T. F. Delman stressed the fact that collaborative processes and activities meant to inform the built environment tend to disenfranchise many social groups. The democratic system, also in the urban planning context, empowers the chosen actors, for instance, members of the local councils, politicians, municipalities (C. J. Hansen; T. F. Delman). Moreover, the urban population who chooses to engage in participatory processes often represents “a specific breed of citizens” (T. F. Delman), meaning engaged citizens. T. F. Delman indicated that when those people are allowed “to decide the city, there is a lot of citizens who are no longer represented”. Such participation is highly non-democratic and results with the growth of the cities for the same kind of people, which promotes inequality (T. F. Delman).

Traditionally, urban planners prefer to focus on areas and neighbourhoods “with a lot of resources [...] where [many] creative organisations and small businesses operate” (A. S. Hansen). On the word of C. J. Hansen, as the present-day urban world is based upon a framework which honours powerful actors, the co-creation and social change capacity of architecture is limited. Several interviewees confirmed that developers are primarily interested in building as many ‘expensive square metres’ as possible - to be sold to affluent people (C. J. Hansen; O. N. Henriksen; R. Marsh; T. F. Delman). Since those ‘square metres’ can be afforded only by a certain group of people, the growth of “well-rounded cities” with a diversity of citizens is hampered (T. F. Delman), which intensifies gentrification (H. Lund; T. F. Delman).

Investments in square metres are favoured over those embracing “community facilities, [...] outside areas, [...] green spaces between the buildings and all [the] things that make a liveable city” (C. J. Hansen). R. Marsh talked about the concept of speculative housing, meaning large and dense constructions - buildings, apartments and offices - of questionable quality and liveability value, built with minimum consideration given to special needs of end-users. Several interviewees presented Nordhavn, Sydhavn and Ørestad in Copenhagen as examples of speculative investments (C. J. Hansen; L. Skaufel; O. N. Henriksen; R. Marsh; T. F. Delman;). T. F. Delman deemed Ørestad a “terrible example of urban planning” and a place where buildings are points and structures are not

interlinked. Many newly constructed areas offer no environment (T. F. Delman) and “abrupt transitions from one space and function to the other” (R. Marsh).

4.3 Human-Centred Design

4.3.1 Working for Local Solutions

a. Adjusting the toolbox

Nearly all interviewees confirmed that participatory methods and tools require local adjustments. There is no blueprint that can be applied anywhere, and the ways projects are conducted are altered to social and spatial contexts and settings (A. S. Hansen; B. Werner). Practically, engaging with different places and people requires a unique combination of already-known, efficient tools (A. S. Hansen; B. Werner; E. Arin; S. Brunvoll; Ø. Leonardsen) and the use of different communication channels (M. Holm; Ø. Leonardsen). Adjustments are often needed within project units with special interests (M. Holm; R. Marsh) and participant groups with different expectations (C. J. Hansen; S. Brunvoll). Although, K. S. Nielsen noticed that some methods are valuable in every project, such as ‘key actors mapping’. Overall, the toolbox and co-creation approach “depend on who you co-create with, at what stage in the process [...], [and] what is that you want to collaborate on” (A. Agger). T. Lau from Social Action attested that “ethnographic, empathetic kind of understanding [makes the participatory process] [...] very personal, so it becomes a one-to-one experience for citizens”. E. Arin concluded:

> Not [having] a one-size-fits-all engagement process is very important because it also disillusions the general approach of people towards citizen engagement. That's the same thing with architecture. People always want to curate that building, not just copy-paste another building. [...] They want something targeted to them.

b. Sensing the place

According to several interviewees, participatory projects should be based on building together with the citizens both physical artefacts and ideas. The processes should “bring [people] out to see and discuss things” (L. Skaufel). T. M. Sørensen emphasized that participation should not start with talks about concrete design details

but rather about "identity, community, safety, and [other] soft elements". Locally situated knowledge (K. S. Nielsen; M. Holm) should be discovered hand-in-hand with citizens to bridge their understanding with experts (L. Skaufel). A. Agger introduces the Danish word *stedsans* - sensing the place - to elaborate on the idea that public solutions should incorporate "the energy and the thoughts" of urban stakeholders. Likewise, L. Skaufel stresses the significance of studying the "linkage between the perception of the city and the feeling of the city".

The work of other interviewees is also concerned with "understanding the local context" (C. J. Hansen), reading the existing situation (T. Lau), identifying what solutions make sense in a certain locality (K. S. Nielsen) and recognising most imperative issues, insecurities, and troubled social groups in a place (A. S. Hansen; M. Holm; Ø. Leonardsen). B. Werner described urban designers as professionals who translate the thoughts, words, and feelings of local people into designs. The interviewed experts perform a large amount of 'invisible work' (C. J. Hansen) which stands for having informal conversations and meetings with citizens and listening to their stories (L. Skaufel). Moreover, sensing the place and gaining access to local knowledge is grounded in extensive qualitative research, including methods such as qualitative interviews (B. Werner; L. Skaufel; T. Lau), study trips (L. Skaufel), shadowing (A. Agger), observations (L. Skaufel; S. Brunvoll; T. Lau) urban safaris (L. Skaufel), workshops (A. S. Hansen; B. Werner; E. Arin; K. S. Nielsen; L. Skaufel; O. N. Henriksen; R. Fazekas; T. Lau; T. M. Sørensen). "It is [...] about being outside, being on the street and doing it on the ground", as described by Ø. Leonardsen. L. Skaufel concluded:

> It is important to learn and to feel the city on your own body. [...] We practice that in every project. [...] We are trying to get the senses back into urban planning. [...] It is people who are using [the] spaces, [...] it is social places that we are making, [...] [and] doing these projects can be a social experience.

Uncovering local resources and transforming them into assets is a way of exploring the particularity of a place (Ø. Leonardsen). H. Lund from Realdania believes that "there are hidden resources in different places in society" that can be unsealed through citizen-initiated co-creative actions. L. Skaufel gave the example of the campaign of Realdania called *Stader Tæller* - 'Places Count' - that brings attention to neglected places in Denmark with high growth potential. The methods of Everyday Studio "tap into the history, [...] the soil and the ground" (L. Skaufel) of a place. L. Skaufel emphasized that the key is to tie together local people, textures and materials and bring passion into the site being (re)developed.

4.3.2 Iterative Processes

Most of the interviewees base the participatory projects on design thinking theories which support continuous iterations. A. Agger emphasized the importance of perpetual testing and failing, stressing that contemporary design practice should desist a zero-error approach. At Fjord, for example, the design process follows the Double Diamond model - Discover, Define, Develop, Deliver. Designers "ideate and come up with ideas [together with the clients], structure the thoughts and consolidate them" (S. Brunvoll) and then go through the Double Diamond again. The process also involves "all kinds of prototyping and testing" (S. Brunvoll) with the clients or users. "There is a lot of iterations and prototyping, and effort to constantly be able to evolve [...] and change" (S. Brunvoll) to derive at usable and desirable solutions. M. Holm highlighted that co-creation is an ongoing process: "We talk to people and co-create all the time. It is not that we co-create and then build, and then finish".

Other interviewees mentioned temporary projects (A. S. Hansen; M. Holm; Ø. Leonardsen) or one-to-one tests (K. S. Nielsen) as means to presenting and examining ideas among the users. Testing and ideation occur at multiple process touchpoints (T. Lau), stations (K. S. Nielsen), phases (R. Marsh), at meetings and workshops (K. S. Nielsen; L. Skaufel; O. N. Henriksen; T. M. Sørensen). These are key points of interaction between community stakeholders and urban planners or designers which unlock feedback loops (E. Arin). Moving back and forth in the process (K. S. Nielsen; O. N. Henriksen) and consulting its elements and stages with the citizens or clients throughout the entire project period (K. S. Nielsen) opens up the "co-creation dialogue" (O. N. Henriksen) that fosters the exploration of all key conditions to be considered in the process. According to E. Arin from arki_lab, feedback loops help to ensure that "no information is lost in the process" and the project builds on the local knowledge gained through past engagements.

4.4 Organizing the Flow of Co-Creation

4.4.1 Characteristics of the Facilitator Organisation

When talking about unfolding trends in architecture, many interviewees mentioned the shift towards co-creation and the growing importance of user involvement: "everything is slowly moving into having a more user-centred focus" (S. Brunvoll), "there appear many more projects now where the client gets involved, even in case of public projects" (O. N. Henriksen), "this kind of process is in the law, that the municipality has to do

involvement so it makes sense for the citizens" (K. S. Nielsen). M. E. Steenberg gave the example of the city architect in Aarhus who "wanted the designers to go out and put sticks in the ground to mark where new buildings would come, so it is easy for the citizens to read" (M. E. Steenberg). T. F. Delman highlighted that Kollision design office challenged the prevailing top-down system in Aarhus by adding "the element of citizen participation to the processes as a standard".

A number of characteristics were identified by the interviewees when talking about the profile of the organisations and actors promoting co-creation in their work. People pursuing collaborative work have to be curious (A. Agger), open-minded (S. Brunvoll), willing to explore the needs and current challenges of the focus area (E. Arin; O. N. Henriksen; S. Brunvoll), as well as eager to run an ongoing dialogue with the clients or end-users throughout the design process (M. Holm; O. N. Henriksen). O. N. Henriksen recognized the great contribution of participatory practices to improving the quality of competences of architects:

> As an architect, you are not a specialist but a generalist. The only way to become a specialist is to talk to people because like that you can know what are the special requirements for [the] particular building. And then we actually become experts in design.

M. Holm from Kulbanekvarteret project, run within the Municipality of Copenhagen, gave an account of the essential components of a good team that fosters citizen participation: "You always go for people with different backgrounds. I am a sociologist, our boss is an anthropologist, we have an architect and an engineer". Besides, the members of participatory projects need certain personality traits to be able to talk to and listen to a multitude of social groups and handle conflict situations. As emphasised by M. Holm it is crucial "to be able to both be on the streets [and] talk to men drinking beer on the bench and [...] to politicians". Multidisciplinary teams are also favoured in Sydhavnen and Nordvest area renewal projects. Among the employed professional, Ø. Leonardsen listed an environmental planner, sociologists, anthropologists, engineer and economists. A. S. Hansen, in turn, recalled having "an architect, a landscape architect, a performance designer, an urban life developer and [...] an anthropologist" in the project team.

Many other interviewees also confirmed the benefits of employing people with diversified backgrounds and skillsets, and the merits of having multidisciplinary teams. At Fjord, for instance, no certain education is demanded but the emphasis is put more on the competences and energies of an employee (S. Brunvoll). Apart from architects and designers, SLA employs anthropologists and sociologists to be able to pursue participatory activities. On the word of T. M. Sørensen, the inputs of different kinds of professionals are crucial in the very

intertwined participatory processes. K. S. Nielsen mentioned that CFBO benefits substantially from the work of the employee with art history and communication background when engaging the citizens in the design practice. Likewise, 3XN tightly cooperates with the anthropologists, behavioural specialists, plant specialists, and other professionals being a part of the GXN innovation unit (O. N. Henriksen), while the team of arki_lab embeds "a mix of disciplines" (E. Arin), meanings anthropologists, ethnologists, urban designers, sustainability specialists and architects. Similarly, B. Werner put emphasis on having a diversity of colleagues in terms of background in COurban Design Collective, including an ethnographer, a human geographer and a landscape architect. Last but not least, the interaction between different professionals in the design work is valued and practiced at Henning Larsen: "There are a lot of different people in here and people are mixed in their groups so both architects and engineers are sitting together in one project and try to merge everything into one design" (M. E. Steenberg).

When elaborating on the merits of diversified teams, M. E. Steenberg, A. S. Hansen and T. Lau confirmed that involving social scientists in urban and participatory design projects is increasing. A. S. Hansen distinguished between the approaches of the architects and experts with social science background:

> The architects have their scanning view on the urban space [...] whereas the anthropologist[s] [are] very good at coding, identifying, decoding the life of people, and then translating that into the language that the architect can understand. The architect[s] can [...] [identify the need] to test the area in order to see how things work [...] and then the anthropologist[s] would consider the kind[s] of activities that we need to perform in order to provide the architect[s] with the information that [they] need [in order to] be very precise in setting up the demands and defining the project.

Many examples of bringing in other companies into the project were revealed throughout the interviewing process. COurban is often employed "as a subcontractor or for [executing] the participation parts" (B. Werner) of the projects by companies that don't hire any social scientist. H. Lund emphasized that Realdania utilizes the work of consultants and other actors in the projects, "both consultants who are good at doing new business plans and the ones who can support some of those projects in the local environment. [...] That would both be architects and engineers, and people knowing about investments, and probably guys like you".

4.4.2 Role of the Facilitator Organisation

As confirmed by several interviewees, architecture companies often enter public or private competitions. O. N. Henriksen affirmed that participation in competitions involves an ongoing dialogue with the clients, nonetheless not necessarily the end-users. B. Werner expressed the opinion that co-creation within the frames of competitions might be reductive, as any proposal needs to align with the vision of and the framework set by the investor. Despite many competitions requiring limited communication between the competing actors, O. N. Henriksen noticed the growing popularity of competitions that resemble 'co-creation workshops', where the client and competitors interact and share inputs throughout the whole design process.

E. Arin explained the role of facilitating co-creation as a complex process of "negotiating and managing [...] conversations". Facilitators guide people on how to articulate and address issues (E. Arin). Notwithstanding the increasing focus of municipalities on citizen involvement (C. J. Hansen; K. S. Nielsen), some interviewees argued that such an approach is not exemplary. On the word of T. F. Delman, oftentimes municipalities "want basically a communication project [...], [...] to tell people about what they are doing and then they want them to like the project". C. J. Hansen, in turn, expressed satisfaction regarding municipal participatory undertakings: "Copenhagen Municipality is really good at creating these processes".

The three interviewees representing the area renewal projects of the Copenhagen Municipality showed their engagement in "bridging the gap between the local community and the politicians at the City Hall" (A. S. Hansen). Nonetheless, M. Holm implied that the type of co-creation they do is constrictive: "You can have a definition of co-creation when you say that you have a totally equal level. [...] We don't have a totally equal level on all the projects, because we have a framework already". One of the project leaders gave an account of turning resources into assets as a strategy to overcome context- or place-based limitations: "Instead of saying "You have all these issues", we try to turn it around and say "What if it was assets? What if this was something that could be used progressively in the future?" (Ø. Leonardsen).

4.5 Collaborative Practices

4.5.1 Selecting Participants and Ensuring Diversity

Mapping relevant actors and targeting the right people was deemed crucial in participatory design processes. E. Arin explained that "if you do a process that's clearly not meant for [the] target group, people always understand this". A. Agger asserted that the choice of participants for the co-creation process requires knowledge on the local context and relevant stakeholders: "You have to sense the locality or the place and [...] map what kind of different actors could be relevant to collaborate with" (A. Agger). Likewise, K. S. Nielsen emphasized the value of having "a list or [...] a map of all the actors [...] relevant to talk to". B. Werner also considered the "social-spatial mapping" the key part of the participatory process. E. Arin stressed the complexity of this activity: "The mapping took four or five months within itself to make sure we're engaging the [...] right people, at the right time, in the right way".

Having a map of relevant stakeholders helps to ensure the heterogeneity of targeted stakeholders: "It can be an entire mapping [...] of a neighbourhood or an area. [...] We targeted [...] different gender, age and ethnic diversity groups" (B. Werner). S. Brunvoll emphasized that it is crucial to "make everybody have a voice or feel involved". Similarly, O. N. Henriksen indicated the need for having "the core group with different backgrounds involved". At SLA it is also stressed that "the [participating] group [should be] made of very different people" (C. J. Hansen).

Ensuring diversity implies involving people of very different demographic backgrounds in co-creation. Many interviewees stressed the merits of co-creating with children. K. S. Nielsen pointed at the creativity of kids: "[the kids] between four and ten [...] can actually tell you what they want and what they are doing [..] [and] often [have] really good ideas. They want everything to be floating on the water. A floating playground!". Other interviewees presented their unique methods of working with children. At Kollision collaboration with children was handled via the method called *The Visitor from Mars*: "We provoked them [...] to think out of the box. They were saying "Oh, that would be cool. If they do it on Mars then we can also do it here" (T. F. Delman).

Other interviewees mentioned the following approaches of working with children: "For the school kids we did different gaming workshops, [...] arki_nopoly, [...] and [different] types of prototyping, testing, model-building, collage-making" (E. Arin); "We try to support [children] in a way to make it possible for them to be heard, to be a part of the project" (Ø. Leonardsen), "[The children] got to draw and build and design the future urban

countryside village town" (B. Werner);. "[We] had an ideation workshop, a design workshop, and a building workshop [with children] [...] We educate them to be mini city developers. We work with democracy concept, citizenship, and city development. [Children] make their own urban space here" (M. Holm).

K. S. Nielsen mentioned the difficulties of engaging young people:

> If you do a workshop or [...] invite people, it is always the old people who [attend]. [...] Often we do a specific workshop just for young people because it is hard to get their opinion [...]. We gave them these 'thumbs up' 'thumbs down' signs and then they had to walk around in the city and send pictures of things they like [and] places they dislike. [...] Sometimes we were asking them to make movies.

Elderly people are seen as active participants of co-creation processes: "Retired people are actually a huge resource because there is so much private pension that a lot of those people actually work for free" (H. Lund).

Several interviewees recommended quantitative methods and online channels to reach a large number of people. M. E. Steenberg suggested utilizing a well-known social media platform while S. Brunvoll and K. S. Nielsen pointed at online surveys. On the word of B. Werner, "quantitative study is not hard [but requires] good channels to share [it] with people". By contrast, T. F. Delman criticised quantitative surveys asserting that "people don't know what they are answering". The interviewees valued the use of platforms such as Facebook profiles of municipalities (B. Werner) or digital post such as e-Boks in Denmark (T. M. Sørensen) when co-creating on a city scale. As concluded by T. Lau, "it takes as much work to create an online experience for 10,000 people as it takes to prepare an interview for 10 people".

Some of the interviewees argued that the engagement of a large number of people might not be the right co-creation approach. Targeting representatives of diverse social groups with the right engagement tool was suggested. As S. Brunvoll explained:

> In order to understand the user, you don't need to talk to 100,000 people [...]. In design, [...] it might be enough to talk to two or three people of each category. [...] You should rather make some subcategories [as] having a big amount of data is not going to help you [...]. It's more about looking into data that you have [...] and looking for patterns.

E. Arin emphasized that quantity is not the key: "Sometimes ten people is all it takes [...] [to] have a great process. [...] It's [more] about how you do it, with what tools, who you activate and how you activate them". Likewise,

T. M. Sørensen advised to “target different groups and figure out why [the process] is important for this [particular] group of citizens”.

Some research participants questioned the feasibility of large-scale projects: “[Engaging 100,000 participants] would be the biggest citizen participation project in the history of Denmark” (T. F. Delman); “I simply don't think you can have a mass co-creation in details” (Ø. Leonardsen); “I think there's a threshold of maybe a few hundred that you can engage and it needs to be the right time and place” (B. Werner); “I think even a thousand [of participants] would be quite optimistic, unless you find a way to narrow it down into topics [or] themes” (O. N. Henriksen).

4.5.2 Empowering through Knowledge and Inspiration

The interviewed experts asserted that to attract and sustain the engagement of citizens in the urban design process, the citizens need to fully understand the process (B. Werner; E. Arin; L. Skaufel, M. E. Steenberg), the benefits (E. Arin) and the inspirational value of it (A. S. Hansen), as well as feel ownership of the project and be taught “the language of the urban planner” (L. Skaufel). Besides, the citizens should be able to perceive and understand “the [architects’] view of things” (M. E. Steenberg).

Communication was regarded as playing a significant role throughout the involvement process: “Communication [...] is keeping all users informed on how the project is going. [...] It is also a way of keeping the engagement and the ownership alive” (T. M. Sørensen). It was indicated that communicating with different people necessitates the use of different channels (Ø. Leonardsen), such as mailboxes and web pages (T. M. Sørensen). K. S. Nielsen exemplified the use of creative communication platforms such as ‘live exhibitions’ based on placing the posters with project progress and plans in the window of the office and encouraging the opinions of the citizens on those.

Several experts from architecture companies considered visualisations with 3D models and VR glasses essential in communicating the project: “We do a lot of models in 1:1000 and they are [...] constantly evolving [...]. We are discussing around the models, which makes it very easy for citizens and politicians to understand volumes and how the development is [changing] from week to week.” (L. Skaufel); “There were models built and things could have been moved around.” (R. Marsh); “VR is a very essential tool to explain what we are doing to all the people” (M. E. Steenberg).

Many interviewees acknowledged the limits in the imagination of people, stating that the perceived needs of the citizens often revolve around having more of the already existing solutions or improving the quality of those. T. F. Delman believes that citizens are asked the wrong questions and "a lot of money is misspent on [faulty] citizen participation in urban development". This problem was also elaborated by Ø. Leonardsen:

> We don't necessarily ask "What do you want?" [because] it creates this "customer deliver thinking" [...]. That's a very passive way to debate. We try to ask questions like: "What do you want with your public space?", "How are you going to use it?", "Who is going to - if we put up a swing - push the baby?", "How are you going to organize social and cultural life?"

Field trips proved to be an efficient tool to inspire citizens in area renewal projects: "We take all the kids and our advisory board to field trips [...] and show them other playgrounds that look different than the playground they know. They are becoming [...] local experts and city development experts." (M. Holm); "We use field trips and study tours [...] to see something that is completely different from here. [...] That's a very good method to give people an impression that things could be different and open up their minds." (Ø. Leonardsen); "We [...] visit other parts of Copenhagen [...] [and] try to figure out how we can get inspired by others [...]." (A. S. Hansen). The practice is common at architecture studios as well: "We do study trips. [...] It is not just me being an expert, telling them how to do things, but to invite them in and have opinions that we make together." (L. Skaufel); "The company does a lot of [study trips].[...]The partners [...] know so much, I think they could almost do a guided tour everywhere." (K. S. Nielsen).

Many participants emphasized that educating citizens on the participatory process and the degree of their possible influence on the project is time-consuming, nonetheless, it enhances the overall satisfaction of citizens with the process. A. S. Hansen highlighted that people should know the framework and understand the different phases of the project. Likewise, T. F. Delman stressed the importance of making people understand the rules of participatory processes before allowing them to influence the project and put forth unrealistic or individualistic ideas. L. Skaufel is concerned with teaching people "to take responsibility and see themselves in the larger group, and that they have a big role to play to make these projects". As emphasized by S. Brunvoll, a substantial amount of design work "is about justifying [the] work and educating people around the topic" of co-creation. As concluded by T. M. Sørensen, "when [...] involv[ing] the residents as users they have to know to what extent they can require or wish something, else they end up having big ideas and get disappointed of us not meeting their wishes".

4.5.3 Choosing the Right Engagement Tools

S. Brunvoll, B. Werner and L. Skaufel emphasized the use of a plethora of co-creation methods in the design process. The importance of having a flexible co-creation toolbox was also stressed by E. Arin, K. S. Nielsen, S. Brunvoll, A. S. Hansen and Ø. Leonardsen. T. M. Sørensen emphasized that ideally qualitative and quantitative methods should complement each other in the engagement process.

Art is often used in public engagement as it "helps to make people experience and discover the area in new ways" (A. S. Hansen). Creating a storyline or a narrative for the place and rephrasing the problems turned to be the strategy in the area renewal project in Sydhavn: "What we tried was to rephrase it. If this is an issue could it also be an asset?" (Ø. Leonardsen).

Games as an engagement tool were mentioned in several interviews: "We did this game. It was a map of the city divided into different areas. […] you had to pick the brick which was representing the character that you have. […] at the same time you can be a citizen but you can also be an investor, so you might have different perspectives." (K. S. Nielsen); "We used games as co-creation tools because we found out that having a set of rules sort of levelled up the playing fields for all actors." (T. F. Delman); "All of our tools and methods are based on gamification." (E. Arin).

Digital tools were recommended by S. Brunvoll for involving large groups: "Digital is easier. Less effort" This was confirmed by T. Lau, R. Fazekas, K. S. Nielsen, as well as M. E. Steenberg, who is currently developing an AR-supported web page: "[The users] could take a screenshot and then the [web page] would have its own communication system directly with the municipality and the architects where they could also get answers back" (M. E. Steenberg). E. Arin from arki_lab talked about the app that they developed:

> [CoCityApp] is a collage making tool in its essence […] [that enables to] create your own vision for the area […] [and] give[s] the decision-making power to the people because they have the local knowledge and they are the people who actually use the area. This specific tool is really an extension of our office approach.

Furthermore, M. E. Steenberg mentioned the collaboration with Facebook for engaging more people:

> I was talking about that with guys from Facebook, that maybe they wanted to integrate that function into their things as well. […] You could […] see who is in the area, who is affected by the building. Those people would get a notification that something is on.

Setting up a framework for discussion, pre-departure workshops and post-departure workshops (B. Werner), handcraft meetings with the citizens (L. Skaufel), kick-off meetings to discuss the vision, mid-term meetings to discuss the sketches and models (O. N. Henriksen), citizen meetings, informal conversations at sight (C. J. Hansen) are all used to build knowledge on the local context with the client: as stressed by C. J. Hansen, professionals perform the roles of the designers while "local people are local experts".

Additionally, the interviewees introduced urban engagement methods such as living labs (Ø. Leonardsen), urban gardening (R. Fazekas; T. M. Sørensen; Ø. Leonardsen), makerspaces (A. S. Hansen) and temporary urban projects (A. S. Hansen; K. S. Nielsen; M. Holm; T. F. Delman; Ø. Leonardsen). K. S. Nielsen emphasized that temporary projects enable the designers to "see if the citizens like [the proposed solutions]. Sometimes they realize they like something what they [...] did not like before" (K. S. Nielsen). M. Holm asserted that having a temporary office at sight is "one of the most important things in the projects", and is "like a living exhibition for the people" (K. S. Nielsen).

Apart from tangible engagement tools, interviewees talked about qualitative methods to engage people: "We use different forms of interviews, situational interviews, in-depth interviews. We organise the creative workshops as well, with target groups for example, where they can be a little bit more creative. We tried organising public hearings with groups" (B. Werner); "[We use] qualitative methods that are based on ethnography and anthropology" (T. Lau).

4.6 Improving Urban Life

In various manners, the interviewees articulated the liveability focus of their projects: "We are concerned about the quality of life and the means by which we try to improve it by influencing the built environment." (H. Lund); "We always address how to live and that's always a part of all the projects that we do." (L. Skaufel); "We need to understand what the quality of living is and what the quality of the home is [...]. [We are] working on [...] urban liveability guidelines for the whole neighbourhood" (B. Werner).

4.6.1 Building Communities for Sustainability

S. Brunvoll indicated that without involving the users it is difficult to create an environmentally sustainable solution. When talking about sustainability, H. Lund claimed: “People want a lot more of sustainability than the state and the government can or will deliver. […] The NGO level is also very much up for co-creating, not only on a local level but very international”. A. Agger talked about the upcoming C40 Summit in Copenhagen, seeing it as a “window of opportunity to demonstrate […] smart urban solutions that can engage local residents and give them a voice about the public space and about the buildings”. Ø. Leonardsen articulated the commitment of the municipality to “create a livable, sustainable and more equal city”, and to engage the whole community: “It's only when we go together, we can actually do it”. He asserts that the role of the municipality is to “create a framework that makes it possible”.

Understanding the real needs of users and co-creating with them leads towards sustainable solutions. As claimed by S. Brunvoll:

> The methods of really trying to understand your user or creating solutions together with the user or stakeholders will help in making product solutions that are here to stay and […] be truly sustainable. […] really taking the user into account - I think that's the way to go with urban and city development. I think there is plenty of examples of something being created in the city that just doesn’t help the users at all.

Likewise, T. M. Sørensen explained the sustainability facet of co-creation:

> I try to teach the users […] that we build for the next generation who is going to live there. That's a discussion and I think that's where the architects argue for the good solutions and the residents often say yes to it, but also, of course, have their ideas and opinion of what they want, and that's where the democracy is strong.

Co-creation is a way of building community and “deconstructing [the] gap” (E. Arin) between the citizens and decision-makers. Ø. Leonardsen believes that changes in the public space have the capacity of “enhanc[ing] and empower[ing] the community”, while feeble citizen involvement in urban initiatives gives no reason for the community to be shaped, as well as alienates the people and “creates an atmosphere of uncertainty and insecurity”. A. S. Hansen also confirmed that when working with insecure and disadvantaged citizen groups, it is vital to create local empowerment and networks in which people can engage. R. Fazekas recognized

“strengthening the community” as the biggest benefit of co-creative projects: “[…] you can imagine that after this project this community can do another project together maybe much easier”.

Fostering local communities is also one of the goals of residential projects: “They often get to know new people and get to figure out how to establish more community in the area” (T. M. Sørensen). Besides, reinforcing the community value is believed to enhance the sustainability of the solutions derived from area renewal projects: “If [the residents] don’t feel like we are developing their community, their network, their social life - then they forget it and then it won’t work in the long-term” (A. S. Hansen).

Area renewal projects work in disadvantaged places with disadvantaged social groups and aim to improve the quality of living there: “We can together re-create what kind of life they have.” (Ø. Leonardsen); “The locally situated urban renewal project […] encompasses a challenged or disadvantaged city area.” (M. Holm); “We feel a lot of insecurity, problems with the gangs, with disadvantaged social groups. These are, according to us, the places that lack most in terms of quality of the physical surroundings” (A. S. Hansen).

4.6.2 Foreseeing Sustainable Urban Futures

As stated by T. F. Delman, “everyone has a different perspective on what the city is going to be”. When talking about the future of cities, L. Skaufel expressed her wishes:

> Hopefully, our cities will be much more layered that it appeals to many more aspects of human needs. […] Having this focus on cultural heritage, for example, can make us keep environments and people in the city who have bigger aims than watching TV.

R. Marsh and T. F. Delman talked about backcasting future scenarios: “The [concept] is that you have got an idea of what's going to happen. People begin to take account of that and how they work, and then after a certain amount of time, it becomes the minimum” (R. Marsh). T. F. Delman mentioned the backcasting method applied at Kollision:

> We developed [the] method called utopia-typing. […] we take a future scenario, and we describe the world that is entirely different from the world that we know. […] And then we roll it back and ask “Could any of the ideas that you are having now actually work tomorrow?” […] - and then people find out that they could think out of the box.

Several interviewees agreed that technology and climate change are factors that will affect future urban planning. A. Agger assumed that technology might have a disruptive role in handling big climate changes. H. Lund stressed the flooding problem in Copenhagen as a direct consequence of climate change: "The mayor of Copenhagen, of course, is very much aware that within maybe 20-30 years he should establish some fences around the city and be working on a lot of different areas to prevent the city from flooding". R. Marsh reported on the lack of "clear target", "intermediate goals", "process to follow up […] [when] diverging from the target" and "clear sustainability goals" in the urban design.

In relation to scenario planning, R. Marsh mentioned Sustainability Classes:

> [The classes were initiated] by the government as a part of the building regulations […] on reducing energy consumption in buildings […] in three steps […]. In each step, you'd have a reduction of about 25 percent. […] the easy class was "What would happen in five years" and the difficult class was "What would happen in 10 years." […] there was a rule about how it was then and you could see what would happen in five years and ten years.

As assumed by R. Marsh, scenario-driven Sustainability Classes encouraged clients and architects to move towards more innovative and sustainable practices:

> Everybody had a vague idea of what was going to happen. And that meant the construction sector could begin to transform and innovate. And [being] able to know what was going to happen, they could take steps to ensure that they would reach that.

K. S. Mikkelsen recognized that scenario planning could trigger out-of-the-box thinking:

> By Forfra is a [group] of different entrepreneurs who have a vision about how the city [could] look like in 30-40 years. […] they host a lot of debates about how to see the city […] [and] ask the question of what we're going to do when the sea rises.

Talking about technology-driven changes in future urban planning, several architects, including L. Skaufel, M. E. Steenberg and O. N. Henriksen, were unanimously positive about and welcoming to the new technological possibilities: "I think that there is a lot of technology I would like to use. […] It would be great if I could measure the use of a public path without going out and registering." (L. Skaufel); "They call it 4.0 […] [Industry 4.0.]. We start integrating IoT sensors in buildings and in urban spaces and integrating those with our sensors. […] I think

this is going to be the future. [...] [AR] is very much upcoming." (M. E. Steenberg). The following statement was given by O. N. Henriksen:

> All the new technology is actually just improving our interaction with the client and our way of communicating. We can get feedback faster than before and get data in a faster way. We can know exactly what the needs are. [...] You can analyse the city flow and see who uses what type of space, at what time of the day. New technology helps to co-create in an even more informed way.

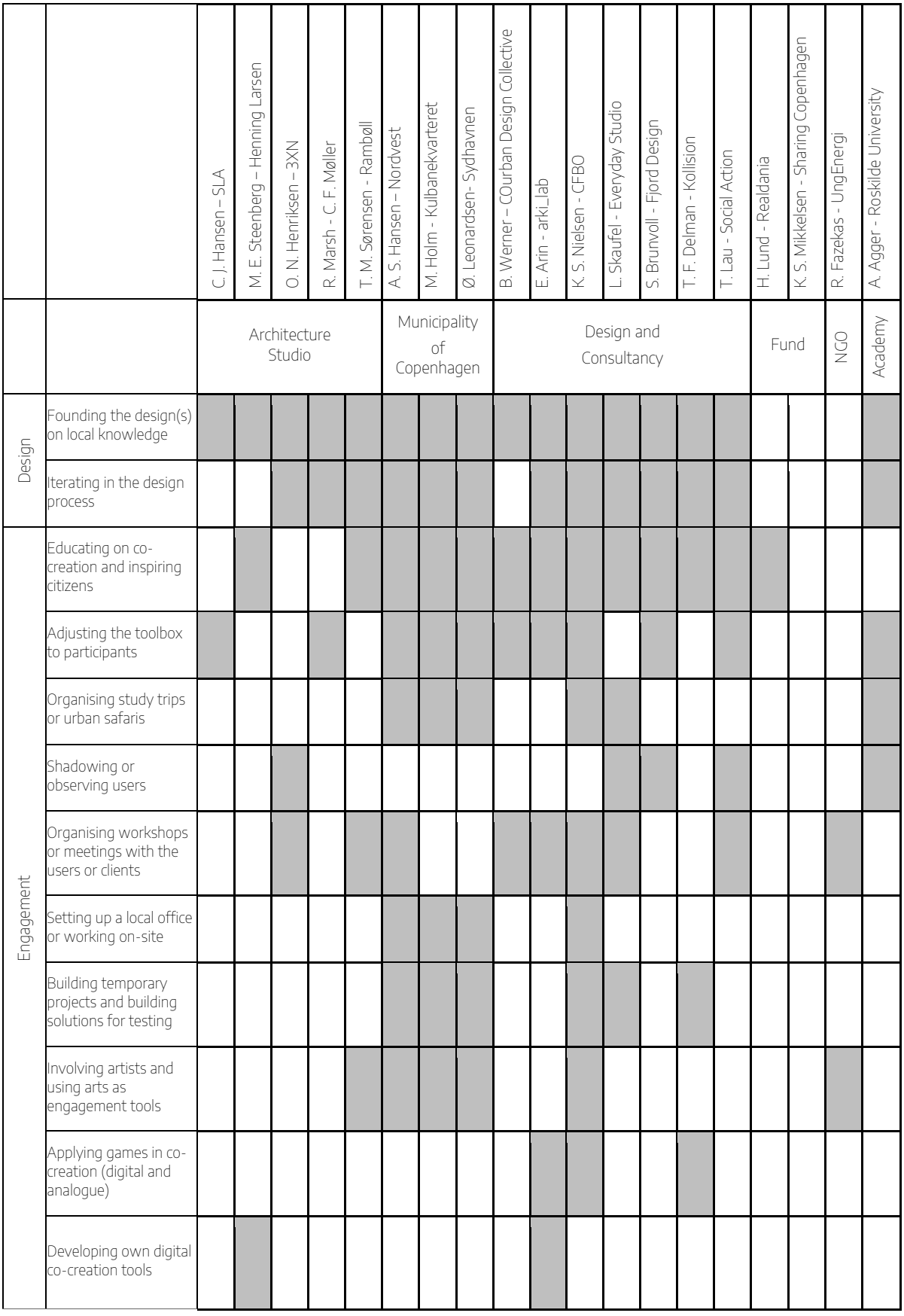
Table 1: Table of findings[18].

		C. J. Hansen – SLA	M. E. Steenberg – Henning Larsen	O. N. Henriksen – 3XN	R. Marsh - C. F. Møller	T. M. Sørensen - Rambøll	A. S. Hansen – Nordvest	M. Holm - Kulbanekvarteret	Ø. Leonardsen - Sydhavnen	B. Werner – COurban Design Collective	E. Arin - arki_lab	K. S. Nielsen - CFBO	L. Skaufel - Everyday Studio	S. Brunvoll - Fjord Design	T. F. Delman - Kollision	T. Lau - Social Action	H. Lund - Realdania	K. S. Mikkelsen - Sharing Copenhagen	R. Fazekas - UngEnergi	A. Agger - Roskilde University
		Architecture Studio					Municipality of Copenhagen			Design and Consultancy							Fund		NGO	Academy
Values	Applying co - creation/user involvement/participation[19]	■	■	■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Stating that co-creation leads to better design and architecture	■		■	■	■	■	■				■		■	■					
	Emphasizing the liveability value of co-creation									■			■				■			
	Emphasizing the sustainability value of co-creation				■	■			■					■			■			■
	Articulating the community-building aspect of co-creation					■	■	■	■		■	■				■			■	
Communication	Communicating the project to clients/users in the pre-design phase	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	
	Communicating projects to clients/users in the post-design phase	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	
	Involving the users/clients throughout the whole design process	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	

[18] The list is not exhaustive as the nature of the research, inspired by the constructivist grounded theory approach, implied the use of semi-structured interviews aimed at flexible exploration of concepts and ideas. Thus, the table might include data gaps since certain questions were not covered during some of the interviews.

[19] The participants of the research process were deliberately contacted because of their conceived contribution to shaping the urban future of Copenhagen.

		C. J. Hansen – SLA	M. E. Steenberg – Henning Larsen	O. N. Henriksen – 3XN	R. Marsh - C. F. Møller	T. M. Sørensen - Rambøll	A. S. Hansen – Nordvest	M. Holm - Kulbanekvarteret	Ø. Leonardsen- Sydhavnen	B. Werner – COurban Design Collective	E. Arin - arki_lab	K. S. Nielsen - CFBO	L. Skaufel - Everyday Studio	S. Brunvoll - Fjord Design	T. F. Delman - Kollision	T. Lau - Social Action	H. Lund - Realdania	K. S. Mikkelsen - Sharing Copenhagen	R. Fazekas - UngEnergi	A. Agger - Roskilde University
		Architecture Studio					Municipality of Copenhagen			Design and Consultancy							Fund		NGO	Academy
	Communicating projects with 3D models and VR visualisations	■	■	■	■															
Knowledge	Running in house research and innovation unit	■	■	■		■								■						
Knowledge	Exchanging knowledge within the collaborative design scene						■	■	■	■	■		■		■	■	■	■	■	■
Human resources	Working in a multidisciplinary team	■	■	■		■	■	■	■	■	■	■	■	■		■		■	■	
Human resources	Having competencies in-house to facilitate co-creation	■	■	■		■	■	■	■	■	■	■	■	■	■	■			■	
Human resources	Employing social scientists in-house	■	■	■		■	■	■	■	■	■					■		■		
Human resources	Contracting experts to facilitate co-creation	■			■	■	■			■							■	■		
Diversity of participants	Mapping relevant actors	■		■		■	■	■	■	■	■	■		■		■	■			■
Diversity of participants	Working with disadvantaged social groups		■				■	■	■			■				■			■	
Diversity of participants	Seeking to involve demographically diverse participants	■		■		■	■	■	■	■	■	■		■	■		■		■	


C. J. Hansen – SLA
M. E. Steenberg – Henning Larsen
O. N. Henriksen – 3XN
R. Marsh - C. F. Møller
T. M. Sørensen - Rambøll
A. S. Hansen – Nordvest
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S. Brunvoll - Fjord Design
T. F. Delman - Kollision
T. Lau - Social Action
H. Lund - Realdania
K. S. Mikkelsen - Sharing Copenhagen
R. Fazekas - UngEnergi
A. Agger - Roskilde University
Architecture Studio
Municipality of Copenhagen
Design and Consultancy
Fund
NGO
Academy
Design
Engagement
Founding the design(s) on local knowledge
Iterating in the design process
Educating on co-creation and inspiring citizens
Adjusting the toolbox to participants
Organising study trips or urban safaris
Shadowing or observing users
Organising workshops or meetings with the users or clients
Setting up a local office or working on-site
Building temporary projects and building solutions for testing
Involving artists and using arts as engagement tools
Applying games in co-creation (digital and analogue)
Developing own digital co-creation tools

		C. J. Hansen – SLA	M. E. Steenberg – Henning Larsen	O. N. Henriksen – 3XN	R. Marsh - C. F. Møller	T. M. Sørensen - Rambøll	A. S. Hansen – Nordvest	M. Holm - Kulbanekvarteret	Ø. Leonardsen- Sydhavnen	B. Werner – COurban Design Collective	E. Arin - arki_lab	K. S. Nielsen - CFBO	L. Skaufel - Everyday Studio	S. Brunvoll - Fjord Design	T. F. Delman - Kollision	T. Lau - Sodal Action	H. Lund - Realdania	K. S. Mikkelsen - Sharing Copenhagen	R. Fazekas - UngEnergi	A. Agger - Roskilde University
		Architecture Studio					Municipality of Copenhagen			Design and Consultancy							Fund		NGO	Academy
	Using quantitative methods in the process of co-creation					■				■		■				■				
	Backcasting or using scenario-based planning methods				■					■					■			■		■
Project type	Working for/with the municipality	■				■	■	■	■	■	■	■				■	■	■		■
	Supporting bottom-up initiatives of citizens						■	■	■								■	■		

Table 1: Table of findings

Chapter 5: Discussion

The following chapter provides the answers to the research question and research sub-questions. The answers are based on empirical findings and complemented by theoretical considerations elaborated in the literature review of this thesis. The three sub-questions were established in order to break down the complexity of the key research question. Firstly, the sub-questions will be considered which will render the ground for a comprehensive and summative answer to the main question of the research. The questions are as follows:

Research question: What practices and efforts in the field of collaborative design hold the potential to benefit the futures of cities?

Sub-question 1: How urban planners and designers can advance the way they co-create?

Sub-question 2: How could the inputs of non-expert participants be improved?

Sub-question 3: What is the contribution of social scientists to collaborative urban planning?

5.1 Advancing Co-Creation by Urban Planners and Designers

5.1.1 Reaching Definitional Consensus and Setting a Common Framework

The first sub-question of this study aims to identify the steps and efforts that should be taken by urban planners and designers, as well as within the whole collaborative planning ecosystem, to advance the way organisations co-create the cities of the future and enhance potential benefits of co-creation.

A significant number of terms equivalent or related to co-creation was mentioned in the literature review of the thesis. Depending on the context of a study, different authors applied terms such as co-creation (Ramaswamy & Ozcan, 2018), collaborative design, collaborative planning (Healey, 1997; Mayer et al., 2005), citizen involvement and participatory placemaking (Pierce, et al., 2011). A multitude of existing definitions of co-creation was stressed by Ramaswamy and Ozcan (2018). The findings of the research conducted among Danish actors engaged in collaborative practices in the field of urban planning show that companies and organizations apply such practices under different names, namely user participation, citizen involvement, co-creation as well as real co-creation (A. Agger; B. Werner; M. Holm; T. F. Delman; T. M. Sørensen; Ø. Leonardsen). Such variation in

terminology was explained as being influenced by the differences in the extent to which the users or citizens are involved in the projects, as highlighted by research participants (B. Werner; T. F. Delman). Therefore, no clear consensus regarding the definition of co-creation has been achieved in the academic field and the findings of the empirical research unanimously reveal a lack of a definitional concord in practice, too. The findings support the scholarly view of MacInnis (2011) regarding the necessity of accordance in defining co-creation. It can be assumed that such an agreement could potentially enhance the quality of collaborative practices across disciplines and the overall reputation of co-creative initiatives on the collaborative design scene, as it would foster responsible usage of the concept among organisations and lead to the proliferation and recognition of truly co-creative practices.

The findings reveal that current legislation on urban co-creation is rather disappointing. Nevertheless, it was highlighted multiple times (B. Werner; K. S. Nielsen; L. Skaufel; M. E. Steenberg) that Scandinavian regulations stipulate that "any project that has a city or state public development" (B. Werner) in its framework has to embed a participation element. It was revealed that those regulatory requirements are loosely formulated (B. Werner) which justifies various critical tones heard among the participants of the research. These findings point to the assumption that oftentimes organisations declare to perform co-creation only to comply with the law, which results with an escalation of superficial approaches towards the practice. Also, the findings show that architecture companies tend to resign from real co-creation after winning a public competition (T. Lau) and many municipalities consider citizen participation a form of communication project (T. F. Delman). Based on the unanimity of those results, it is suggested here, that urban regulations should outline the framework for collaborative design so as to enhance the quality of such practice in the future, thus enhance the rules of future urbanism.

To sum up the above considerations, by relying on the findings from the empirical research and based on the revealed multiplication of co-creation-related concepts in academic literature, it can be assumed that reaching definitional consensus on the meaning of the concept and regulatory amendments can set the co-creation framework for urban planners and designers that would enable the advancement in the current collaborative design practice.

5.1.2 Integrating Evaluation and Impact Measurement in Projects

Research participants highlighted the fact that project evaluation and impact measurement are important yet often neglected elements of collaborative design process (H. Lund; M. E. Steenberg; S. Brunvoll; T. Lau; T. M. Sørensen). The findings show that both pre- and post-evaluation are highly desirable in the field of collaborative urban design as they facilitate learning within organisations. Nonetheless, just one of the interviewees gave an account of the successful integration of impact measurement in the project (T. Lau). Lack of specific information on systemic tools and impact measurements used for project evaluation constitutes a relevant finding, as it sheds light on the opportunity that organisations pursuing collaborative projects could draw more inferences from project experiences and benefit from testing solutions in a pre-implementation stage. This statement is further supported by the presumption of Ermacora and Bullivant (2016) presented in the literature review, who recognize the essential role of evaluation in promoting collaborative placemaking and creating positive externalities that could benefit a broad range of stakeholders. It can be therefore suggested that establishing specific evaluation and impact measurement mechanism in collaborative projects could improve the learning curve of co-creating actors and build important knowledge in the field of collaborative design that could be utilized in future urban projects.

5.1.3 Seeking Transparency and Knowledge Sharing

The results of the empirical studies highlighted the problem of transparency among urban developers and planners. The key finding was that a lot of critical knowledge and information collected through practical experiences in urban planning (C. J. Hansen; E. Arin; T. F. Delman) or through internal research (C. J. Hansen; O. N. Henriksen; S. Brunvoll) is either lost and not utilized in future projects (T. F. Delman) or shared only internally (E. Arin; O. N. Henriksen). The outcomes of such practices include hindered potential of co-creative practices and reduced efficiency of collaborative urban planning projects, as the necessary knowledge often has to be built without taking advantage of past experiences. The findings show evidence that certain forms of knowledge sharing, such as spreading of manuals, documentation, organisation of conferences, workshops and masterclasses (A. Agger; B. Werner; A. S. Hansen), are already present on the collaborative design scene, nevertheless they give the impression that the practice is more common among (and between) municipal projects than big architecture companies which prefer to keep their knowledge and expertise in-house. It should be, of course, considered that information needed in collaborative projects is usually context-dependent,

nevertheless, the access to the "pool" of best practices or public data could facilitate the pursuit of such projects in various contexts, regardless. It seems that co-creating organisations do not leverage fully the possibilities offered by the spread of wiki technologies, including hybridization of expertise (Ermacora & Bullivant, 2016), multi-actor learning and synthesising of a plethora of ideas (Twu, 2009). Hence, it can be suggested that the open sharing of information and utilization of wiki technologies in urban planning could advance the efficiency and scale up the benefits of co-creative urban projects. Also, it could conceivably be assumed that transparency in data sharing is likely to strengthen the democracy of future urban planning.

5.1.4 Connecting Various Actors

Research findings confirm that organisations engaged in urban co-creation do not only aim to involve the citizens in their projects, but also establish tight-knit collaboration with other resourceful and knowledgeable actors, such as municipalities (A. S. Hansen; B. Werner; H. Lund; K. S. Mikkelsen; K. S. Nielsen; M. Holm; Ø. Leonardsen), consultancies (C. J. Hansen; H. Lund; L. Skaufel; M. Holm; M. E. Steenberg), social organisations (B. Werner; H. Lund; R. Fazekas), entrepreneurs (E. Arin; K. S. Mikkelsen) and artists (A. S. Hansen; M. Holm; Ø. Leonardsen). The findings show that the broadening of collaborative networks enhances the ability of projects and their participants to bring positive urban change, strengthen communities and contribute to sustainable and liveable urbanism. Based on several opinions laid down in the findings section, it can be suggested that as collaborative projects are usually pursued within the frames set by powerful actors - such as municipalities, politicians or developers - the capacity of urban co-creation to accommodate meaningful social change is limited. Nonetheless, when interpreting this limitation through the lens of the institutional approach theory, the collective effort of co-creating organisations shapes understandings, values and identities (Shotter, 1993), and has the potential to transform the existing institutional order, as well as power relations (Healey, 1997). As suggested by Healey (1997), networks grounded in a certain institutional context can become the sources of taken-for-granted premises, nonetheless, by renegotiating the nodes within the network and adding new collaborators, actors enhance their capacity to influence the context. Thus, another assumption that constitutes a part of the answer to the first sub-question of this research is that by connecting to diverse actors present in a certain institutional context and leveraging the potentialities of available social structures, urban planners and designers can enlarge the benefits of co-creation and advance its significance in a given institutional context.

5.2 Improving the Inputs of Non-Expert Participants

The second sub-question of this research is concerned with practices and methods that could potentially improve the inputs collected from non-expert participants of collaborative projects, essentially the citizens in the urban context. The improvement of inputs can be understood as the gathering of data of better quality, meaning substantive opinions and information leading to better design outcomes, or the enhancement in the intensity and degree of citizen engagement.

5.2.1 Involving All Relevant Points of View

The data revealed in the findings point to the assumption that in urban participatory processes the quality of citizen inputs should be valued more than the number of collected opinions. It was implied that designing with the citizens is not all-inclusive, thus aiming to engage a large number of people should not be a priority goal as it increases project complexity and data management efforts (C. J. Hansen; E. Arin; S. Brunvoll). As it was theorized in the literature review, urban design thinking facilitates the inclusion of all relevant actors in the design process, and consideration of various perspectives (Ansell & Torfing, 2014). Interestingly, empirical research yielded another interpretation of this theory and stressed the importance of taking into account all relevant "points of view" (Ø. Leonardsen). It was suggested that the combined points of view of different types of citizens represent the theoretical whole of actors relevant to the collaborative design process (S. Brunvoll; T. M. Sørensen). This finding matches the emphasis of several interviewees put on social-spatial mapping (A. Agger; B. Werner; C. J. Hansen; E. Arin; K. S. Nielsen; O. N. Henriksen; S. Brunvoll; T. M. Sørensen), which enables identification of all important social groups within the area in the scope of the project, each holding a unique point of view. All things considered, the findings back the conjecture that consideration of all relevant points of view benefits the collaborative process more than the inclusion of an abundance of participants.

5.2.2 Involving Participants in the Entire Design Process

The empirical research confirmed that involving the citizens throughout all the design process and ongoing consultation of design elements or stages with the people leads to the collection of more knowledgeable feedbacks and opinions (E. Arin; K. S. Nielsen; O. N. Henriksen). The research indicated that such thorough participation increases the likelihood of channelling citizens views into designs (C. J. Hansen) and creating social

and economic benefits through designed solutions (E. Arin). This finding corroborates the study of Giacomin (2014) on human-centeredness, which implies that ongoing communication and interaction with the participants of the design process stimulate their learning and understanding of own needs and experiences by triggering regular realisations through pragmatic and empirical sensemaking. The consistency of the view of Giacomin with the findings from qualitative interviews infers the positive correlation between the duration and degree of citizen engagement and the quality of inputs.

5.2.3 Cultivating Inputs through Education and Inspiration

The research results led to the assumption that education and inspiration are compelling factors that increase the quality of citizen engagement and their inputs. The results of the study stress the limits of the creative capacity of research participants and their lack of awareness of or inability to articulate their needs and wants (A. S. Hansen; B. Werner; E. Arin; L. Skaufel; M. E. Steenberg; M. Holm; Ø. Leonardsen). The interesting finding indicates that the inputs are often conventional, and the citizens tend to propose urban solutions that resemble the already existing ones (C. J. Hansen; T. F. Delman). Thus, it can be suggested that by expanding the perspective of the participants through inspirational activities such as, for example, study trips which introduce them to other places, spaces and stakeholders, process facilitators, can trigger out-of-the-box thinking among the citizens which leads to better outcomes of collaborative projects. Such forms of citizen engagement could be conceivably interpreted as the endeavours to enhance "creational potentialities" (Ramaswamy & Ozcan, 2018) of urban assemblages (Venn, 2006; McFarlane, 2011), which adds practical understanding to theoretical concepts laid out in the literature review.

The conceptualisation of urban design thinking and assemblage thinking in urban design by Dovey (2016), presented in the literature review, implies that the designer is responsible for the creation of "collaborative spaces for co-creation", thus setting the boundaries in the process. Besides, Dovey emphasizes that assemblage thinking sets focus on the connection between actors and co-functioning of differences within the urban context. A similar pattern of findings was obtained from several interviews concerning the role of education and framing in collaborative projects. Primarily, it was implied that the contribution of people is not beneficial for the project unless the rules of the participatory process (C. J. Hansen; Ø. Leonardsen) and the possible and expedient degree of the influence that the citizens can exert on the project (A. S. Hansen; L. Skaufel; S. Brunvoll; T. F. Delman; T. M. Sørensen) are understood. Another significant finding was that education should involve the

teaching of responsibility for the city and inhabited spaces (L. Skaufel) as well as for the decisions taken by the citizens, and of the embeddedness of citizens in a larger context (C. J. Hansen; T. F. Delman), thus the importance to see beyond individual needs and wants, consider the well-being of the community as a whole, as well as considerations on sustainability and the needs of future generations (R. Marsh; T. M. Sørensen). The former suggestion further supports the idea of "responsible and shared contribution" in an open societal system (Ermacora & Bullivant, 2016). This combination of findings provides support for the conceptual premise that education leads to the collection of better quality inputs in collaborative projects.

The findings of this study show that gaming and digital tools gain traction in collaborative urban planning. Digital and tabletop games and gamification technology were indicated as having high educational value as they make the citizens learn the rules and complexity of urban planning (E. Arin; K. S. Mikkelsen; K. S. Nielsen; T. F. Delman). These results match the observation of Tan (2017) and Münster et al. (2017) who argue that games enhance the understanding of people on urban environment and interactions. Additionally, the findings revealed the growing interest in scenario planning and backcasting techniques (R. Marsh; T. F. Delman) as tools for both inspiring prospective actions and teaching about the consequences of the choices of citizens for the futures of cities. These findings accord with the assertion of Robinson (2003), that technology-driven backcasting methods have a high social-learning value. Both games and backcasting techniques reinforce the concept of "open morality" (Ermacora & Bullivant, 2016) that demands attentive responses from the citizens regarding their urban environments. Another relevant finding calls for the use of technologies, such as 3D, VR or AR (M. E. Steenberg; O. N. Henriksen), to bridge the communication gap between urban planners and citizens (B. Werner; M. E. Steenberg), and visually teach people on the outcomes of design choices. Such solutions carry the potential of strengthening the human-centredness (Giacomin, 2014) of urban planning. Therefore, another assumption based on both theoretical considerations and empirical underpinnings is that digital tools, application of technology and gaming, as well as interactive and creative co-creation forms in collaborative design projects facilitate engagement of citizens through a gradual accumulation of knowledge and experience, hence contributing to a better quality of overall project inputs.

5.2.4 Leveraging Local Resources

As elaborated in the literature review, the rise of network society results with the empowerment of the whole communities which can reconfigure themselves by "establishing productive relationships" (Pinkett & O'Bryant,

2003, p. 192) between the members and local artefacts. Also, the related Asset-Based-Community-Development (ABCD) theory (Pinkett & O'Bryant, 2003) implies a strong relationship between community growth and the ability to transform available resources into assets, meaning to empower the community. The findings of the qualitative research tie well with the aforementioned concepts as they imply that uncovering of local assets and resources (H. Lund; L. Skaufel; Ø. Leonardsen), as well as shaping of local narratives (Ø. Leonardsen), serve as inspirational and educational means of empowerment that enhance the contribution of citizens to collaborative space and placemaking. It can be assumed that an implication of this is the possibility to direct citizens towards collaborative work for desirable urban futures by setting their focus to locally available resources and potentialities. Such assumption, however, cannot be extrapolated to all cases of network-based efforts, as the future of cities constitutes one of many factors likely to incentivize the citizen engagement into collaborative design projects.

5.2.5 Guiding and Directing Bottom-Up Initiatives

As demonstrated in the theory, resources shared between and co-governed by the members of a certain locality can be regarded as 'collaborative commons' (Rifkin, 2014). Shaw (2014) considered "commoning" - the dynamic interaction between people, resources and local rules - a necessary condition for the emergence of commons. Previous studies highlighted the fact that P2P networks decentralize the management of commons, empower the citizens and enable the proliferation of bottom-up initiatives, implying that civil society is gradually becoming the decision-making body of the future (Ermacora & Bullivant, 2016), leading to the emergence of "self-organizing cities" (Tan, 2017). The findings of the research do in fact confirm that the citizens carry the potential to direct the city itself and its resources and artefacts towards better futures, nonetheless, the power of the people and, again, their "creational potentialities" (Ramaswamy & Ozcan, 2018) are often highly dependent on the financial and methodological support (A. S. Hansen; H. Lund; K. S. Mikkelsen; M. Holm) of the facilitators of collaborative projects who are also capable of fostering complementary connections between the actors (H. Lund; K. S. Mikkelsen). It can thus be suggested that the quality of commoning, meaning the quality of citizen contribution to collaborative projects, improves with the degree of guidance and support that they receive.

5.3 Contribution of Social Scientists to Collaborative Projects

The third sub-question of this study seeks to determine the contribution of social scientists to the field of collaborative urban planning. This section centres around the finding that there is a growing tendency to diversify the skill sets and backgrounds within the teams working for the organisations that apply co-creation in urban development projects (A. S. Hansen; B. Werner; C. J. Hansen; E. Arin; K. S. Mikkelsen; K. S. Nielsen; L. Skaufel; M. E. Steenberg; M. Holm; O. N. Henriksen; R. Fazekas; S. Brunvoll; T. Lau; T. M. Sørensen; Ø. Leonardsen). Research findings lead to the presumption that a broad range of competencies employed in participatory projects and inclusion of social science professionals enhance the potential benefits of collaborative design endeavours.

The findings indicate that the efficiency of collaborative design approaches increases when the members of collaborative teams possess certain personality traits and knowledge on working with people. The characteristics of those members embrace strong communication skills and education in various branches of Social Sciences (A. S. Hansen; B. Werner; C. J. Hansen; E. Arin; K. S. Mikkelsen; M. E. Steenberg; M. Holm; O. N. Henriksen; T. Lau; T. M. Sørensen; Ø. Leonardsen). Additionally, the empirical studies emphasize the growing importance of the knowledge on human interactions and co-creation in architecture and design education (K. S. Nielsen; L. Skaufel), as well as point at research efforts made by architecture companies and design studios to explore the relationship between people and spaces (L. Skufel; M. E. Steenberg; O. N. Henriksen), which further highlights the significance of Social Sciences in urban design projects. It can be suggested that skills and competencies acquired especially through Social Science education might constitute the key to leveraging the co-creation potential of placemakers. A possible explanation for this is that a broad range of soft social scientific competencies facilitates interactions between a diversity of people and professionals and the examination of the “humane” side of urban design projects, such as the interrelationship between social life, behavioural patterns among the citizens and urban spaces.

The above assumption is backed by several theoretical considerations laid down in the literature review. According to a number of authors, the role of Social Science in collaborative planning encompasses managing local networks and alleviating the obstacles to bottom-up initiatives through empowering people (Ermacora & Bullivant, 2016), facilitating collaboration between private and public sector (Brown et al., 2009), supporting the self-organizing function of the city (Tan, 2017), and conciliating the interaction between political, economic and cultural systems (Brown et al., 2009; Janzer & Weinstein, 2017). Moreover, different authors assign various titles

to the position of the facilitator of collaborative design projects, i. e. urban designer (Brown et al., 2009), participatory placemaker (Ermacora & Bullivant, 2016), social designer (Janzer & Weinstein, 2017) or designer (Tan, 2017). The results reveal that oftentimes the facilitator of such projects is educated in Social Sciences (A. S. Hansen, B. Werner, C. J. Hansen, E. Arin, K. S. Mikkelsen, M. E. Steenberg, M. Holm, O. N. Henriksen, Ø. Leonardsen, T. Lau, T. M. Sørensen). Additionally, the findings reveal that the employment of social scientists, including anthropologists, ethnologists, ethnographers, human geographers, behavioural scientists and sociologists, for the facilitation of collaborative projects is a common practice in the urban design field (A. S. Hansen; B. Werner; C. J. Hansen; E. Arin; K. S. Mikkelsen; K. S. Nielsen; M. E. Steenberg; M. Holm; O. N. Henriksen; T. Lau; T. M. Sørensen; Ø. Leonardsen).

5.3.1 Solving Complex Societal Problems

As attested in the theoretical part of the thesis, social design seeks to solve complex societal problems (Janzer & Weinstein, 2014) and requires a sensitive approach to the particularity of social and cultural context of a place targeted by the scope of the project, as well as the stakeholders affected by the design. Consistently with this theory, research participants indicated that reaching a precise understanding of the needs of end-users and of the local context enables the inception of better and more sustainable designs and identification of solutions that are likely to solve the most imperative problems of local communities (A. S. Hansen; C. J. Hansen; K. S. Nielsen; M. Holm; O. N. Henriksen; T. F. Delman; T. M. Sørensen). The findings stress that such a sensitive approach that acknowledges the locality of collaborative design efforts necessitates certain characteristics from the designers, namely curiosity (A. Agger), openness to explore the needs and the challenges present in a certain area, neighbourhood or a city and immerse in local social structures (E. Arin; O. N. Henriksen; S. Brunvoll) and willingness to engage in a constant discourse with the participants throughout the entire design process (M. Holm; O. N. Henriksen). One of the issues that emerges from these findings is that social scientists contribute to collaborative design practices by bridging the gap between the designers and the local context.

The study of Janzer and Weinstein (2014) affirm that a lack of sensitive approach and openness to local particularities in collaborative projects may result with the propagation of neocolonialist design practices that invade places through implementing solutions that do not fit the context. By highlighting the significance of considering the local context in social design, Janzer and Weinstein (2014) urge to shift from human-centred (object-centric) priorities to situation-centred (social-centric) priorities. Likewise, analogous ideas of pursuing

locally situated projects and founding designs on local knowledge were articulated by A. Agger, K. S. Nielsen, L. Skaufel, M. Holm and T. M. Sørensen. It is therefore suggested that social science professionals are equipped with skills and competencies that facilitate the gathering of local knowledge and empathising with local social groups which enable the identification of the most relevant issues to be targeted by urban design projects.

5.3.2 Nurturing Local Networks

Apart from favouring the practice of collecting knowledge about the specific conditions of the place in scope, Heller (2018) asserts that social design fosters the "collective sense of self" (p. 6), meaning nurtures the connection between community members as well as between communities and places. Empirical findings are aligned with the view of Heller and indicate that facilitation of interaction between diverse community groups and deconstructions of social gaps between those groups are essential steps that should be taken in collaborative projects (A. S. Hansen; E. Arin; K. S. Nielsen; M. Holm; R. Fazekas; T. M. Sørensen; Ø. Leonardsen). Another important finding is that co-creation empowers people (A. S. Hansen; C. J. Hansen; E. Arin; M. Holm; R. Marsh; T. F. Delman; Ø. Leonardsen) which backs the theory that designing for the public necessitates the empowerment of all relevant project stakeholders (Janzer & Weinstein, 2014). Additionally, Janzer and Weinstein (2014) argue that collaborative design has to be "culturally [and] socially applicable" (p. 329) and that there is no one-size-fits-all solution for social initiatives. The findings corroborate with this argument as research participants agreed that no ready-made solutions exist in collaborative urban design field (A. S. Hansen; B. Werner; C. J. Hansen; E. Arin; S. Brunvoll; T. Lau; Ø. Leonardsen).

Working for local solutions embodies the idea of gathering knowledge on the local social structures and a unique set of problems. As revealed by the empirical research, the frequently used methods of gaining access to local knowledge are qualitative interviews, study trips and urban safaris, shadowing, temporary urban projects, observations and workshops (A. Agger; K. S. Nielsen; L. Skaufel; S. Brunvoll; T. Lau) in which social scientists are anticipated to be experts. The implication of these findings may be the assumption that social scientists have competencies that help with facilitating local adjustments in the toolbox of qualitative research methods, which leads to a better understanding of the local context and its specific conditions in collaborative design projects.

Furthermore, the combination of findings provides some support for the conceptual premise that working with social scientists in urban development projects fosters the benefits of collaborative design. The study indicates that the benefits are better design and architecture (A. S. Hansen; C. J. Hansen; K.S. Nielsen; M. Holm; T. M.

Sørensen) and better cities (T. F. Delman). “Better” solution was implicitly defined as a design with high quality and usability value (O. N. Henriksen; T. M. Sørensen), as well as a long-term and sustainable design (R. Marsh; S. Brunvoll; T. M. Sørensen). Other findings stressed the economic benefits of co-creation (E. Arin; T. F. Delman) and the feeling of ownership and connection with local urban space or architecture (E. Arin; K. S. Nielsen; L. Skaufel; T. M Sørensen) that collaborative design projects give to people. Furthermore, as it was highlighted before, co-creation facilitates the creation of networks and fosters mutual understandings between diverse interest groups (A. S. Hansen; E. Arin; K. S. Nielsen; R. Fazekas; T. Lau; Ø. Leonardsen).

To conclude, co-creation has environmental, economic and social merits and these results provide further support for the assumption that employing social scientist to assist in collaborative design project benefits sustainable solutions and contributes to buildings sustainable urban futures. The findings suggest that organisations employing social scientist are more likely to succeed at creating sustainable urban futures through collaborative design.

5.4 Collaborative Design Practices and Efforts Availing the Futures of Cities

The answers to the three research sub-questions make up the holistic answer to the key inquiry of this research, namely the question of what practices and efforts on the collaborative design scene hold the potential of benefiting the futures of cities, which particularly stands for increasing the level of urban liveability, sustainability and equality as well as enhancing the democracy of urban planning. The sub-questions took into account three themes in the following order. Firstly, changes and practices within the urban planning ecosystem and among the planners and developers likely to enhance the payoffs of co-creating with the people are laid down. Further on, the practices that could directly enhance the quality of inputs of non-expert participants of collaborative urban projects are considered. Lastly, the contribution of social science professionals to the advance of co-creation is taken into account. The summative answer to the research question, encompassing all the three themes, is presented in Table 2.

In terms of ecosystem changes and steps that could be taken by urban planners and developers which in the long-term could benefit the field of collaborative urbanism, six conceptual suggestions were laid down by the

authors. On an ecosystem level, there exists an urge to reach consensus on the definition of co-creation to build a shared understanding of the concept among the stakeholders and strengthen its methodological position on the urban design scene. Also, it was suggested that amendments in urban regulations on the degree of co-creation required to be embedded in urban projects are necessary to establish a solid foundation for high-standard co-creative practices of the future. Designers and urban planners should also emphasize the setting of a common framework for collaborative design practices among project stakeholders, as well as the ongoing accumulation of best co-creative practices, transparent urban design and open data and knowledge sharing. Additionally, the authors distinguished the benefits of leveraging the potentialities of available social structures by connecting to local actors when pursuing collaborative projects and of integrating post-evaluation and impact measurement into urban designs.

The practices that could directly influence the quality of citizen inputs and engagement in collaborative design projects, and subsequently enhance the positive contribution of non-expert stakeholders to future urbanism are manifold. Involving all relevant points of view in collaborative processes rather than an abundance of participants was distinguished by the authors as one of such practices. Besides, the importance of engaging participants throughout all project stages was justified. A rich category of practices relates to educational and inspirational activities that could be performed prior to input collection. These are expanding the perspective of participants on what urban space can be, laying down the co-creation framework and process boundaries, fostering the understanding of all points of view relevant in the project and applying interactive and creative co-creation tools. The last two practices stressed by the authors as improving the inputs of non-expert participants are leveraging local natural and human resources in collaborative processes and guiding and directing bottom-up initiatives of project participants.

The significant role of social scientists constitutes an important finding of the research which led the authors to the assumption that the inclusion of social science professionals in urban collaborative design projects is likely to trigger positive changes in the field and enhance the validity of participatory urban design practices in the future. It was recognized that in collaborative urban projects social scientists are especially effective at facilitating interactions between a diversity of social groups and professional, exploring the relationship between urban spaces and human patterns of behaviour, applying qualitative methods of collaboration, gathering knowledge on local environments, social structures and a unique set of local problems, as well as adjusting the toolbox of collaborative design to fit the local context and its specific conditions.

Table 2: The summative answer to the research question.

Collaborative design practices and efforts availing the futures of cities		
Practices and efforts to be taken on an ecosystem-level or by urban planners and developers	Practices that improve the inputs and engagement of non-expert participants	Contributions of social scientists in collaborative projects
1. Reaching consensus on the definition of co-creation to build a shared understanding of the concept. 2. Amending the regulations on co-creation to outline the conditions of compulsory citizen engagement. 3. Setting a common framework for collaborative design practices among project stakeholders. 4. Integrating pre- and post-evaluations and impact measurement into projects to benefit from the feedbacks of users and clients and draw inferences from past projects. 5. Accumulating best practices in the collaborative design field and seeking transparency in data sharing. 6. Leveraging the potentialities of available social structures through connecting to various actors.	1. Focusing on involving all relevant points of view in collaborative processes rather than an abundance of participants. 2. Involving participants throughout all stages of collaborative projects and enabling feedback loops. 3. Educating and inspiring participants prior to the input collection: - expanding the perspective of participants on what urban space can be; - outlining the co-creation framework and process boundaries; - fostering the understanding of all points of view relevant in the project; - applying interactive and creative co-creation tools. 4. Leveraging local natural and human resources in collaborative processes. 5. Guiding and directing bottom-up initiatives of participants.	1. Facilitating interactions between a diversity of social groups and professionals. 2. Exploring the “humane” side of urban design, meaning the relationship between people and spaces. 3. Holding the competencies to work with qualitative methods. 4. Gathering knowledge on the local social structures and a unique set of local problems. 5. Adjusting the toolbox of collaborative design to fit the local context and its specific conditions and enhance participation.

Table 2: The summative answer to the research question. Source: Own elaboration.

Chapter 6: Conclusions

6.1 Restatement of Aspirations

This thesis was designed to amass the knowledge on collaborative design practices and approaches from experts active in various areas of urban planning. Taking advantage of the benefits of studying in the city of great design and architecture, the authors centred their research around the design and urban planning scene of Copenhagen. The key quality of this study is the broad variety of voices of top-level architects, designers, social scientists and researchers that it incorporates and interprets. Such a multi-actor perspective on collaborative urban design is believed to result in insights valuable for a broad range of individuals and organisations. This project was undertaken with the intention to contribute to the continuously expanding knowledge pool of the field of collaborative urbanism, utilized by urban planners and authorities when designing liveable futures of cities.

The study has gone some way towards augmenting the understanding of the authors on the benefits and challenges of collaborative practices. Particularly, it was acknowledged that co-creation in the urban context leads to better designs, architecture and cities, as carefully selected participants of diverse demographic and social backgrounds channel the real needs of citizens to the experts. The study established a comprehensive list of best practices and approaches in the field of collaborative urban design for achieving better futures of cities. Three main areas of results were identified: actions and efforts to be taken on the ecosystem-level; practices to improve the inputs and level of engagement of non-expert participants; and possible contributions of social scientists to collaborative projects.

The recommendations on actions to be taken on the ecosystem-level involve reaching consensus on the definition of co-creation to build a shared understanding among the participants of collaborative projects; changing regulations on co-creation to outline the specific conditions of compulsory citizen engagement; setting a common framework for collaborative design practices among project stakeholders; integrating evaluation and impact measurement into projects to benefit from the feedbacks of users and clients and draw inferences from past experiences; accumulating and sharing knowledge across the collaborative design field; and leveraging the potentialities of available social structures through connecting to various actors.

The second major category of assertions and propositions encompasses practices that could improve the inputs of non-expert participants in collaborative projects and enhance their overall engagement. These practices

include focusing on involving all relevant points of view in collaborative projects, rather than an abundance of participants; involving participants throughout all project stages and enabling feedback loops; leveraging local natural and human resources in collaborative processes; guiding and directing bottom-up initiatives of participants; applying interactive and creative co-creation tools; and educating and inspiring participants prior to input collection. Additionally, several specific practices within the recommendation on educational and inspirational actions were identified. The results show, that it is beneficial to broaden the perspective of the participants about what urban space can be, inform them about the framework of co-creation and its boundaries, enhance their understanding of the points of view of all relevant stakeholder groups affected by the project; and apply interactive and creative co-creation tools that facilitate learning and project comprehension among the participants.

The third significant result of this investigation recognizes the growing need to work with social scientists in collaborative projects. The positive contributions of these professionals are encapsulated in four main tasks in which social scientists are believed to thrive: facilitating interactions between a diversity of social groups and professionals; exploring the “humane” side of urban designs, meaning the relationship between people and spaces; holding the competencies to work with qualitative methods; gathering knowledge on the local social structures and a unique set of local problems; and adjusting the toolbox of collaborative design to fit the local context and its specific conditions, and enhance participation.

Returning to the question posed at the beginning of this study, it is now possible to state that acting upon these three areas holds the potential to benefit the futures of cities and foster liveable and sustainable urban developments.

6.2 Limitations of the Study

The initial aspiration of the authors was to get acquainted with co-creation tools and methods applied in the field of collaborative urban planning in Copenhagen. Additionally, it was intended to identify those tools that facilitate large-scale citizen engagement projects. Nonetheless, as the research progressed in time, it touched upon a broad range of points of view expressed by a multitude of experts which reshaped the initial interests and triggered multiple iterations in the key research inquiry. Consequently, the greatest challenge faced by the authors was to set the focus of the research and hold to the taken direction without yielding to the great

number of temptations triggered by new discoveries that incentivized the broadening of the empirical studies beyond the authors' capacities. It is therefore implied that the thesis does not engage with the ambitious aspiration to introduce the exhaustive list of collaborative design practices and engagement tools nor gives an account of the practical details for the implementation of such practices and tools.

Moreover, a large number of interviews conducted for the purpose of this thesis, apart from bringing a plethora of relevant insights, induced the elimination of certain findings. Therefore, a substantial body of data was not used by the authors in order to avoid the over-fragmentation of the research and the loss of focus.

Besides, this study does not provide a complete review of all relevant organizations active in the collaborative design scene in Copenhagen. The initial ecosystem mapping performed by the authors included forty-seven actors relevant to the focus of the study. Twenty-nine interview inquiries were sent out, fifteen addressed actors were the part of the initial ecosystem mapping and fourteen actors were recommended by other interviewees. Due to time constraints, ten potential research participants resigned from the interview. The overall empirical study accounted for nineteen interviews with more than eighteen hours of interview recording time.

The empirical study was based on semi-structured interviews which implied the differences between the questions posed to various interviewees. The dynamic and emergent character of this interviewing form hindered thorough comparisons between research participants, as certain questions were missing in several recorded conversations. Furthermore, a considerable number of interviews conducted by the authors and the limited time constrained the possibilities to confirm the key findings of the research through the second round of interviews.

6.3 Recommendations for Future Research

A number of possible future studies using the same experimental set-up are apparent. More information on collaborative design practices should be collected from each profession concerned with urban planning to establish a greater degree of accuracy in the statements related to profession-based differences in the approach to the investigated theme. The current study provided a general overview amassed from the experiences of experts with various backgrounds, thus future research should concentrate on the deeper investigation of best

practices within each professional field. Furthermore, throughout the research differences in the approach to co-creation were identified among architecture studios, landscape architecture offices, and municipality projects. This could constitute a base for further exploration of the reasons behind such findings. Considerably more work will need to be done to confirm our findings and it is suggested that further empirical studies should apply more focused questions than the ones of the current study. Moreover, a natural progression of this work is to broaden the geographical scope of the research and compare collaborative practices across different contexts, cities, or countries. Lastly, if the debate is to be moved forward, a better understanding of the current legislation of urban co-creation needs to be developed.

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