“CONCEPTUALIZATION OF LIVEABILITY USING RAMBØLL AS A CASE“

MASTER THESIS
AALBORG UNIVERSITY COPENHAGEN

MSc. SUSTAINABLE DESIGN

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PREFACE

This report is the result of the master thesis in MSc. in Sustainable Design from Aalborg University, Copenhagen. The studies were carried out in a close collaboration with Ramboll Denmark and, on behalf of that we would like to thank the persons that have been very important in both, supporting and contributing to make this masther thesis possible. A sincere thanks to the architecture department for being engaged and helpful throughout the thesis.

Finally we also would like to thank our supervisor in this thesis, Per Richard Hansen , from Aalborg University, Copenhagen for guiding us through the process and being patient with all our questions and doubts.

ABSTRACT

The core of liveability concerns the well-being of humans and constitutes aspects in social, cultural and physical terms. The wide range of aspects leads to the involvement of many professions highlighting matters concerning liveability, which are necessary to address depending on the context the matter is addressed in.

The multidisciplinary approach and dynamic nature of liveability have contributed to an ambiguity and uncertainty in the concept of the notion. Thus there is a necessity for conceptualizing liveability: A concept that can be applied in a multidisciplinary organization such as Rambøll.

Empirical research in the historiography of liveability and qualitative examinations in Rambøll, indicate that diverse schools of thought were causing diversity in the conception of liveability. The dissimilar mindsets were perceived and reflected among the different professions in Rambøll. Knowledge boundaries in between communities of practice and cultural differences in the organization had a hampering effect on the aim of working cross-disciplinarily.

The approach of co-design, was seen applicable in terms of integrating different professions in a collaborative arena. Through activities, the usage of boundary objects will help all several professions to gain greater knowledge of each other's approach to liveability. The common understanding of the term will progressively enhance. Knowledge will be translated throughout discussions, objects etc. and transformed into new knowledge, which will lead to a holistic understanding of liveability.

The liveability concept is not only seen as a tool to enhance the approach to liveability in projects, but also as a mean towards fulfilling key targets in the Rambøll strategy "*Winning Together*" on a longer term, where cross-discipline and sharing knowledge are seen as areas to be improved.

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1.1 LIVEABILITY

Liveability seems to has become an inevitable part of the building construction and urban planning communities, when designing buildings, public spaces and master plans for cities. Liveability is a notion, which has been mentioned in correlation with urban planning literature since the 1950's. But it is not until the recent decades, that the aim of exploring what the study of liveability can add to a certain project, have been described by various authors from different angles. It has become a notion of interest, because it touches upon elements relating to humans and their well-being within designing, which haven't been described elaborately before. Some engineering and design companies like Rambøll has incorporated liveability as part of their design strategy. Though, liveability is not defined and still seems to be an undefined measure that dynamically defines itself from context to context.

Definitions of liveability are diverse and while the term invokes various ideas pertaining to quality of life or human wellbeing, it is recognised as being not only difficult to measure, but also to define. Since the 1950's prominent names such as Le Corbusier, Kevin Lynch, Jane Jacobs, Fred Koetter, Michael Pacione, and Jan Gehl along other people with different backgrounds, have been describing liveability in several contexts, situations and scopes. These descriptions have taken basis in the certain period of time, certain type of thinking and certain events or incidents on a global or societal scale, which have catalysed reactions in society.

The historiographic development of liveability shows how the conception and scope of liveability have not only involved physical things, but also social, political, economical and cultural interest. As Harm Kaal (2011) states, the almost singular conception of liveability in the 1950's strongly influenced by the undergoing urbanisation, has through time, evolved into an equivocal conception affected by the different societal processes. The different societal developments evoked certain thoughts and perspectives on liveability in correlation with urban planning. Le Corbusier, a famous urban planner from the 1930's and 40's, stated that '*the design of cities are too important to be left to the citizens*'(Le Corbusier, 1942), which stands in contrast to for instance to the viewpoint and thoughts of Jan Gehl (2011) "*First life, then spaces, then buildings - the other way around never works*"; Two of many statements, which represented their individual time period and thoughts.

Literature has displayed a shift in thinking, when it comes to the subject of liveability. Going from Le Corbusier's certain modernistic worldview, separating design and humans to Jan Gehl's post modernistic worldview of combining humans and design.

Le Corbusier and Jan Gehl hence stand for one perspective of how liveability is conceived. Since 1950 a handful of occupations have joined the 'definition game' of liveability, ranging from humanistic, social scientific and to nature scientific subject areas. Not only does it provide totally different scientific views on liveablity, but at the same time these views also define some problems, which liveability needed to encompass. Problems concerning human values, cultural relations, demographic compositions and other parameters, were pointed out to have an interrelation with each other and liveability in general.

There does not seem to be a singular definition of liveabilty, due to its evolvement through time with regards to scope, subject areas and approach - it leans towards being a pluralistic notion. In a design context, the ability to incorporate liveability must therefore reflect this plurality and wide ranging scope.

The first impression within an organisation with a majority of engineers could be that liveability should be made tangible through requirement lists or miscellaneous directives. But as De Haan et.al, (2013) states, there is a key theme across the various definitions and applications of the notion is that it is inherently anthropocentric — liveability is a reflection of 'quality of life', 'wellbeing' and/or the satisfaction of the needs of 'the people'. The anthropocentric focus may push the capability of the quantitative working approach, which seems to be permeating the culture within an engineering company. A selection of studied literature (Pacione, 2003; De Haan et. al, 2013; Vine et.al, 2012; Das, 2008; Chiesura, 2004) suggests the combination of both qualitative and quantitative approaches, implicitly advocating for cross-disciplinary work.

Having a notion, which is of dynamic character and diverse in terms of approach and ambiguous in terms of understanding, it may be beneficial for develop a more uniform reference point. In order to implement and work with in a construction environment. There is a need for understanding key terms as 'environment, culture, urban amenities, well-being' etc mentioned in correlation with liveability. An understanding of these key terms' meaning and objective, would provide a solid basis to see them in correlation. Liveability is a result of correlations between several factors, which individually contributes to make something liveable. A conceptualisation of liveability would provide a reference point for this term and a common holistic understanding of what liveability aims to provide, embrace and how it could be approached.

1.2 RAMBØLL

Rambøll have so far been working with liveability in a decade, by introducing an internal definition of liveability and by introducing concepts such as Liveable Cities Lab and Liveable Buildings 2.0. When a company such as Rambøll attempts to incorporate liveability into its projects, it is therefore interesting to use Rambøll as a case study of how big consultancies are working with,

and developing, the concept. Questions concerning the management of liveability arise ; Are they seeing it as a product or part of designing? Is liveability only managed by certain people or by everyone ? - and so on.
Knowledge concerning liveability seems to be key in the provision of a common understanding of the notion itself. Within a company as Rambøll there are many occupations, which will provide several views on liveability, this is an advantage because the notion needs a holistic approach. Though, fundamental knowledge concerning liveability may be necessary in cross-disciplinary collaboration - to make it more feasible and to avoid misinterpretations. Nonaka & Takeuchi (1995) argue that the conversion of implicit knowledge to explicit is the most crucial organizational and interorganizational method of knowledge creation.

Currently Rambøll is promoting and working towards fulfilling the strategy of 2020 '*Winning together*'. This strategy explicitly highlights the need for more cross-disciplinary work, knowledge sharing across departments withthe aim of being client centric. Interestingly, the first two objectives reflect the fundamentals of liveability, which through time has developed into being a notion inviting for a cross-disciplinary approach and knowledge creation across professions. Client centricity seems to be a result of well performed cross-disciplinary work and knowledge creation, because it would provide a more holistic result. Something which may match the many tangible and intangible needs a client and the end-user have. There is a need to gather these people in Rambøll around this notion and open up for a concept that will involve them all, will give them a role to play and will make them see each other competences in a collaborative way. Therefore it seems necessary to conceptualize the term liveability, seeking to provide procedures to follow, that underpins cross-disciplinary work. Within this concept, elements as providing a vocabulary and suggestions of how to gather multiple disciplines into cross-disciplinary collaboration, will be the fundamentals.
Thus, with an already existing organisational effort for cross-disciplinarity, knowledge sharing and transparency between departments, the concept will be able to 'piggyback' on Rambøll strategy 2020 , since they share the same requirements to organisational change and development.

At last, it is about providing knowledge, and as Nonaka and Takeuchi (1995) states it is important the recognition that knowledge is a critical factor in creating competitive success over time.
It is a learning process, where knowledge from several disciplines can evoke new issues, but also produce fruitful solutions. Carlile (2002) mentions that for knowledge to be useful and effective in solving the problems, individuals must be able to localize knowledge around particular problems, as well as draw from and alter (i.e., trial and error, and learning) the knowledge embedded within their practice.

Involving Rambøll with regards to liveability is therefore interesting because of the extended number of different departments involved, which may cause a diverse conception of liveability. More specifically an examination of how the mentioned intangible aspects have been understood, translated or maybe neglected.
In relation to the company strategy towards 2020 '*Winning together*', they are already working for a transformation of their organisation towards fulfilling the requirements for performing liveability.
In many ways the conceptualisation of liveability not only provide an arena, which provides a common understanding, vocabulary and approach, which everyone can relate to in their own way. But also a tool that would enhance the ability of more collaborative work.

2 RESEARCH QUESTION

The research question in this thesis, embraces the difficulties of the malleable term liveability and its possible need for a cross disciplinary approach, when designing. The current literature has provided a wide picture of liveability, placing the term in different contexts and situations, which expands the scope of liveability. Within an organisation like Rambøll that attempts to embrace this term and implement it into projects, the ambiguity of the term is reflected throughout the departments. Different conceptions may cause different interests, which can imply a difficulty when working together around a project. This thesis will therefore aim to

" DEVELOP A CONCEPT FOR LIVEABILITY, WHICH ENHANCES THE HOLISTIC UNDERSTANDING OF THE TERM AND INTEGRATES THE DIFFERENT PROFESSIONS INTO A COLLABORATIVE ARENA THAT REFLECTS THE CROSS-DISCIPLINARY NATURE OF LIVEABILITY "

In order to research this question a line of subquestions emerge and will have to be answered. These questions will be embraced and highlighted in the strategy chapter in terms of how they will be approached and answered.
1. What is liveability ?
2. Why is a conceptualisation needed ?
3. How can this concept enhance the understanding of the term ?
4. How can the concept provide a common platform for the employees, which can make basis for cross disciplinary working ?

3 STRATEGY

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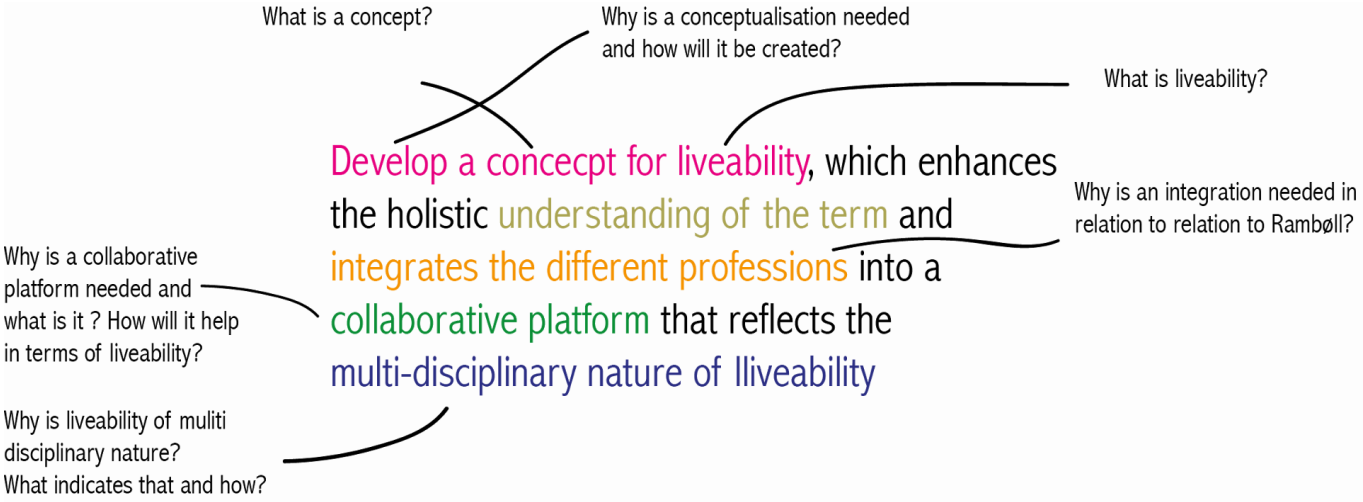

Figure 01. Source: (Granados & Kulasingam,2017)

This chapter will provide an explanation of how this thesis intend to perform the study in order to answer the research question. The strategy's point of departure is the research question, which gives rise to new sub-questions as shown figure 01. What is liveability? Why is there a need for a conceptualisation? How can the concept create a collaborative platform?.
Several underlying questions need to be answered and argued in order to provide a clear picture of what this thesis intend to examine and design.
In the subsequent chapter, the methodology behind the strategical choices will be explained with the use of relevant theory or approaches.

THE NOTION LIVEABILITY

In order to conceptualise the notion liveability, we first and foremost have to establish a basic understanding of the notion and phenomena, due its diverse definition and ambiguous conception. Liveability is a notion that has been shaped by various professions through time . These professions have approached liveability in their own way, by emphasising on problems in relation to their field. To get a feeling of how broad the scope is, it is therefore essential to explore these problems and see how is related to the notion liveability.

Initially a concept mapping will filter the notion and help to understand the different parameters that contribute to 'making something liveable'. The interrelations between these parameters, will be mapped to provide an overview of the different problems categorized by subject areas, topics, definitions, wordings and actors that are involved in the notion of liveability.
The mapping will lead to a historiographical examination and description of liveability ,in order to further explore what these problems embraced and examine the different professions, thoughts, associations through time, circulating the notion.
An analysis of the propounded statements and convictions will point towards and create some steering 'schools of thoughts'. In the historiographic reading of livability, three schools of thought were found. The first school is the dominant orthodox, and it is tagged as "postmodernism". It is characterised by a severe awareness of our "situatedness" of humans. Therefore for postmodernists, all come from a perspective, that is shaped by the culture, or the "little stories," we inhabit. (Penner, 2005). The second school is labelled as "functionalism". It is characterised by a Lloyd's (1953) principle of 'form follows function' in the approach to the social problems of housing and architecture. The goal of social functionalism was to create architectural designs that responded to housing problems and their attendant social problems.(Aoki, 1993). The last school is labeled "modernism" and its main feature is self-consciousness or self-reference, that run across all the novelties in the arts and the disciplines. (Lewis,2000). Thus, liveability will unfold and be placed in these different kinds of schools of thoughts, highlighting key characteristics and attaching occupations that were in favor of a particular one.

RAMBØLL - THE CASE

Simultaneously with the creation of the schools of thoughts, detected through the historical development of liveability, an empirical examination of liveability in Rambøll will be conducted.
Rambøll as an organization was chosen as case study, due the fact that it has been promoting and attempting to implement livability the past decade as well as introducing two internal concepts, known as Liveable Cities Lab and Liveable Buildings 2.0.
How the employees work with the notion and how it is conceived, managed and implemented is relevant in re-

lation to the conceptualization.
The conceptualisation of liveability will attempt to perform as a tool, when it will help to set the arena to promote cross disciplinary work in Rambøll. The diverse nature of liveability can be explored efficiently, because Rambøll involves multiple professions within the different departments.
Implementing liveability to each project, would therefore be a question of, if the different professions have the tools and resources needed to collaborate across the disciplines, share knowledge and provide a holistic result in the end. A general agreement in the organization to implement liveability and its content, would be necessary for making this collaboration possible.

The identified schools of thought will be used in relation to the professions inside Rambøll. In order to make an understanding of why people in Rambøll think the way they think about liveability.
How is this relation possible ?
The schools of thought are constellations of ideas, opinions, world perspective which a group can share about a matter. In the case of liveability, several people have had some association with liveability throughout time, each of them expressing statements or ideas that root in a certain school of thought. A certain way of designing buildings, cities, parks, neighbourhoods or approaching humans in general have throughout time been influenced by the overlying trends and streams in society - school of thoughts.
In Rambøll, there are anthropologists, sociologists, urban planners, designers, architects, engineer and many more professions. A varied group of occupations, which may argue for different approaches to liveability, as the literature also has shown. The different approaches may stem in the profession's nature, which can contain traces from the different schools of thoughts. Some are more human oriented and some are more physically oriented, which both are part of liveability's DNA.
A link between the Rambøll professions way of thinking to the schools of thought, will be fruitful towards creating a concept, which attempts to integrate professions into a collaborative arena.

A solid concept would unfold uncertainties concerning the pragmatic of recurring terms and notions within liveability. The understanding of these would help employees in Rambøll to invite relevant actors into collaboration, when knowledge concerning certain areas lacks.

Empirically, Rambøll will be approached by conducting a study of its company philosophy, strategies, interviews and workshops. An undergoing network building will make basis on a possible concept intervention at a later stage.

CONCEPT - CONCEPTUALISATION

A study of the company philosophy and culture is one part of creating a concept within an organisation.
The management concept contains certain building stones towards the establishment of a concept. Koch et al. (2013) suggests that a typical concept contains a diagnosis of problems in the company's management, and it offers suggestions for how to solve them. The concept does also contain methods for analysis as well as suggestions for procedures to follow, in order to make the change.

The combination of the studies in the literature and Rambøll is aimed to mark tensions points in relation to the conception and management of liveability. The historiographical description will show that liveability has multiple occupational problems, multiple meanings, ideas - which underpins the necessity of conceptualising in this particular context of Rambøll.

What we see that is very important around liveability is, it is not a new concept, is just has not been conceptualized in an organisational context before. So, there is a whole lot of interested parties, a big range of professions that already took this in, and took ownership of the concept, but in each and every way in Rambøll. The big part of this thesis is to create an interplay between the professions.
The concept will seek to trace the different professions native schools of thought, open them up, unfold the ways in which liveability has been problematised in each school of thoughts, and unfold the definitions attached to the terminology, showing the importance for actors to understand the other participant approach to liveability.

Thus, the profile of the concept will somehow reflect the need for gathering the multiple disciplines into a collaborative arena, where they not only gain insight into new fields, but also share their own expertise and approaches. Kaas (2015) further states that design as well as the design process in this approach is seen as an exploration made in collaboration among users, stakeholders and designers.
In Rambøll auspices, the newest strategy 'Winning Together' underpins the importance of enhancing the inclusion of clients in the design processes. Something, which literature concerning liveability also has shown through cases of urban planning, transportation and construction, where there is a need for users'opinion.

How to conceptualize liveability that it will bring all these many various professions together in a collaborative arena and create arenas in organizations like Rambøll will be later shown in the analysis.

4 DISCUSSION OF METHODOLOGY
5 METHOD

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The notion liveability has through literature shown that it can be approached both quantitatively and qualitatively.
The quantitative format seeks to provide ratings, scores and tangible facts about liveability, for instance of how livable a city is or how high the quality of life is in a particular area. Liveability is here labeled, as being something measureable and tangible, by objectively evaluating associated parameters quality of life, happiness, quality of environment etc. through surveys, systematic observations etc.
In relation to the main purpose of this thesis, which is conceptualising liveability within an organisational context, these parameters may have to be explored qualitatively in order to provide a holistic understanding of liveability.
Study of literature has shown the high level of ambiguity, which exists around the notion of liveability, but also within the parameters as quality of life, amenities, quality of environment etc. which have been defined and explained from a number of different occupations throughout history.
If literature displays an ambiguity concerning parameters within liveability, one must assume that within an organisation as Rambøll, a confusion and diversity of conceptions must exists concerning liveability and its inherent parameters. It's a measure, which is build up by conceptions and different approaches over time, making it dynamic and malleable dependent of its context. In relation to the conceptualisation, where Rambøll and its employees will be key providers of data, a constructivist approach is prefered.

In a constructivist approach, meanings are constructed by human beings as they engage with the world they are interpreting. Qualitative researchers tend to use open-ended questions so that participants can express their views. (Creswell, 2003)
An application of qualitative methods seem essential in terms of revealing any tacit knowledge or lack of knowledge, when it comes to livability. Interviews and workshops are effective means to explore each individual's conception and difficulties. In comparison a positivist approach, would roughly provide a fraction of the reality, because it may not fulfill the desired exploration and understanding of how liveability is embraced and managed in an organisation as Rambøll. Surveys and statistics would only provide the objective reality of liveability, by examining the employees conception through scores, it is difficult to understand the context of the phenomena and any secondary data which will underpin the data is unavailable . Furthermore, as complex as liveability is, quantitative methods would lack in the exploration of novel vocabularies and interpretations of words and phenomena in relation to liveability. This alone points to qualitative methods only.

Being able to interpret and evaluate data, which is in context or connected to a story, experience or just formulated with a narrative, provides a view into any correlations liveability has to something else. Thus, due to the dynamic and malleable nature of liveability, a constructivist approach seems sensible in relation to the aim of this thesis.

5 METHOD

As the strategy explained, several methods need to be applied in order to reach the aim of conceptualising liveability. This chapter will explain how the research question will be answered - methodologically. The methodological choices will be argued and justified in terms of their relevance independently and in relation to each other. The following table 03 visualises the methodological approach in this thesis:

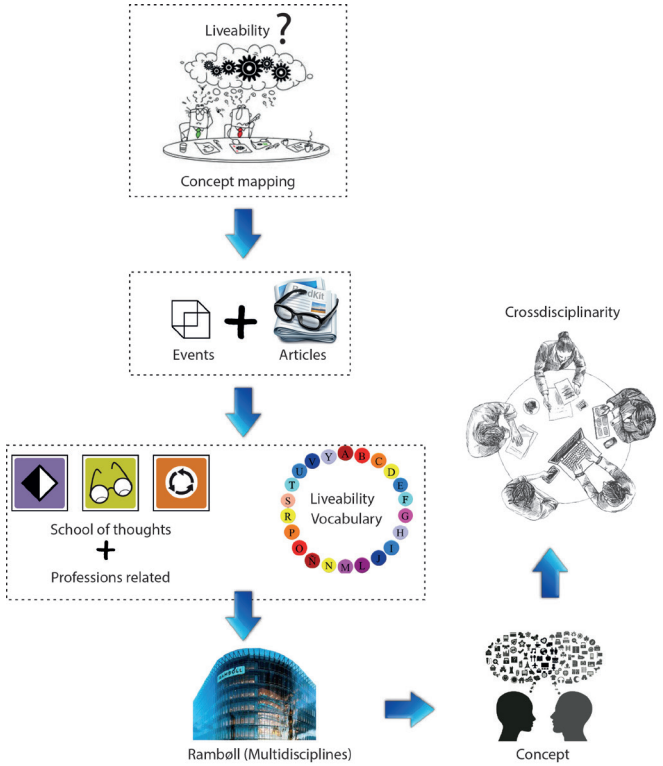


Image 02. Scheme of the methodological approach
Source (Granados & Kulasingam, 2017)

The previous image 02 represents the steps taken through the methodological process

The following paragraphs will explain the methodological approach, at different stages towards the conceptualisation of liveability.

FIELD	METHOD	OBJECTIVE
LIVEABILITY	Literature research	Obtain basic knowledge of liveability: Problems detected in different areas Identifying terminology, scope, actors involved and context, gaps and deficiencies in literature leading towards the research question.
	Concept mapping	Aligning and mapping findings from researched literature and locating the key "ingredients" for the concept.
	Historiography (School of thoughts)	Develop a historiographic description of liveability by particularly looking at the involved occupations and what kind of issues concerning liveability prevailed
	ANT	Establishing a network in Rambøll to intervene and identify tensions, leading actors and non-important actors in relation to the conceptualisation.
RAMBØLL	Interviews	Identify who is interested in the term and find tensions concerning liveability.
	Workshop	Observe how employees from different disciplines interact, discuss and debate liveability.
	CO-Design	Characteristics and requirements of co-design will be elaborated further after the analysis.

5.1 RESEARCH LITERATURE

The notion liveability needed to be explored in any context, to create a picture of its scope and configuration. The process of researching liveability was divided into three parts following some principles of Liston (2011) - Going from exploring the notion, to refining it into a research topic.
The following paragraph 'historiography' will explain how the literature review lead to a histographic examination and description of liveability.

• Initial literature review

Driven by curiosity and interest, searching was initiated on library databases with the search word 'liveability'. This initial review provided a new terminology leading to temporary questions and considerations in relation to liveability.
Furthermore it provided a list of authors repetitively mentioned in literature and references

• Exploratory literature review

Within this phase, an identification of interesting topic areas was performed. The new terminology was unfolded and terms as well-being, quality of life, culture, environment, urban amenities, endogenous and exogenous forces, were researched in correlation with liveability. Journals and articles were key sources. This provided an insight in the many different occupations that have contributed to the notion of liveability, through time.
Connections and limitations were also described and discussed at this point, leading to the first indication that liveability needed something "to hold it together", if it is to be applied in an organisation working with it.
Besides library databases as search machine, other sources as books (e.i. Cities for People by Jan Gehl, The Death and Life of American Cities by Jane Jacobs) concerning urban planning, infrastructure, sociology were researched to provide a more descriptive picture of liveability.

• Focused literature review

The explorative literature review led to the question if conceptualising was needed and why. It also led to an internal discussion of the scope of research concerning liveability
- where should the focus be pointed to and where does literature indicate deficiencies?
Gaps and deficiencies concerning the approach of the notion (Balsas,2004), terminology (McCrea et. al 2016) and management (Appelyard, 2014) were researched, because it would underpin the need for a concept, if so.

The focused literature review resulted into a concept mapping, where new terminology, occupations, expressions concerning liveability and highlights of the gaps and deficiencies in literature, were compiled and organized. (Davies, 2010)

5.2 CONCEPT MAPPING

In order to compile and organise the findings from researched literature, a concept mapping was applied to information visually, placing the central idea of conceptualising liveability in the middle.
According to Davies (2011) concept mapping is advantageous to use because of its relational aim. The need for visualising the core content within liveability and manually relate one term to another by putting words on it, can be achieved by this method.
With the numerous terms, contexts, occupational approaches and wide range of subject areas, making a concept mapping exercise seemed fruitful in order to identify 'gaps', this thesis could examine.

Concept mapping did also provide the authors with a basic knowledge, an understanding of the correlation within liveability and the ability to locate areas of deficiencies, which could be incorporated in the concept. Furthermore these visualisations provided a clear pre-understanding before entering Rambøll and interviewing the employees.

Articles concerning liveability in various contexts as for instance urban parks, urban quality of life, happiness, environment, neighbourhoods etc. were used for the mapping.

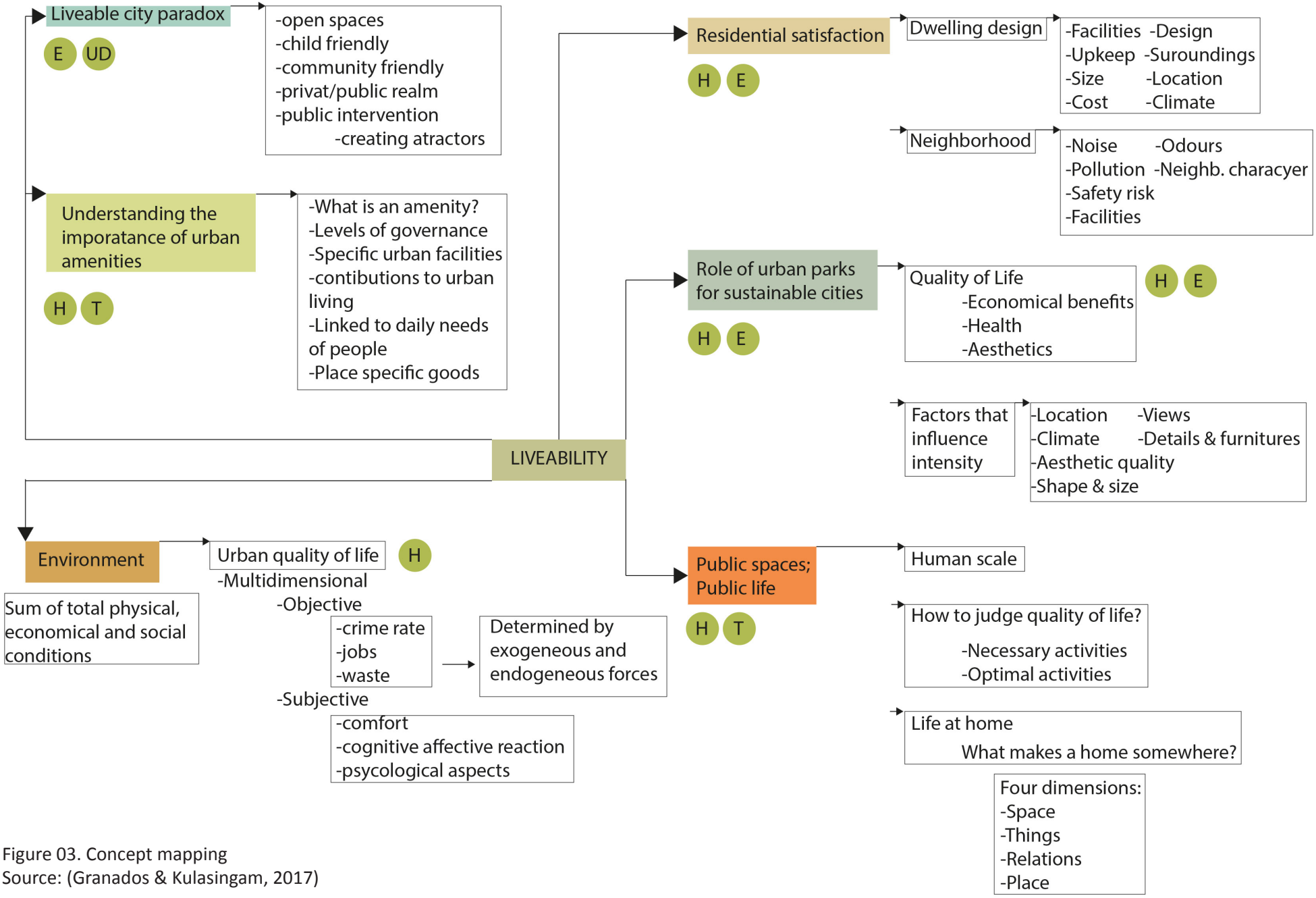


Figure 03. Concept mapping
Source: (Granados & Kulasingam, 2017)

As figure 03 shows, the point of departure 'liveability' was placed in the center and as a road map links between terms, statements and relevant articles were displayed.
The circles with the letters 'H', 'E', 'T', 'UD' which can be seen on figure 03, stated that the different terms were approached by a person with a humanistic, engineering, transportation, urban design etc. background. In relation to the thesis, this indicated the need of examining the different perspectives inside the schools of thought, which have shaped liveability on a generic level through time and resulted in how these terms have been defined and explained.

Thus, concept mapping has assisted to the historiographical examination of liveability, by pointing out the different occupations involved and their individual approach to the terminology of liveability, resulting in a need for understanding this correlation.

5.3 THE HISTORIOGRAPHY OF LIVEABILITY

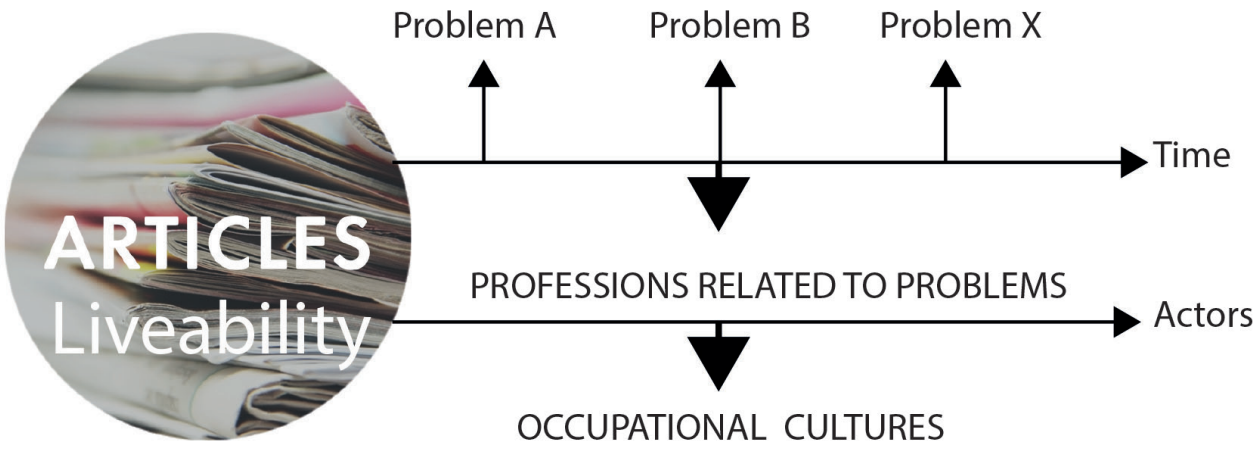
Literature has shown that the term liveability has been defined and explained on basis of the existing schools of thought in the society. Liveability seems to be a dynamic measure shaped by the condition of the society. The streams or as Kashef (2016) refers them as 'the underlying social, economic, and environmental parameters of livability vary across space and time and are generally conditioned by human perception, lifestyle choices, social status, gender, and stage of life. Young and old, men and women, rich and poor, and lifelong and short-term residents considerably differ from each other in terms of their social space preferences, including homes, public realm, goods and services, work, and entertainment'.

Historiography is the method and study of the way history has been and is written, as Furay and Salevouris (1988) defines it. 'When you study 'historiography' you do not study the events of the past directly, but the changing interpretations of those events in the works of individual historians' (ibid) . This method is therefore helpful in tracing the link between author, authors' background, point of view and the core problem, which the person defines and needs to addressed.

The different school of thoughts were identified and described by a historiographic study of articles and books since the 1950's, where liveability emerged in literature for the first time.The following figure 04, shows how the historiography of liveability was performed. Each article, book or journal was unfold, in terms of :

- General problems founded from each profession
- Author's' background and occupation
- Time context
- How they see and define these problems concerning the term, central thoughts and definitions concerning liveability, contextual societal streams or events (i.e: urbanisation, oil crisis in the 70's, sustainability in 00 and 10's)

Image 04. Historiographic scheme
Source: (Granados & Kulasingam, 2017)



Apart from providing knowledge of how liveability have been developed and under which influences, the historiographical study has a key role in relation to Rambøll, as mentioned.

Interviews and workshops conducted in Rambøll will help providing this knowledge, but prior to these methods, it is advantageous to create a temporary network within an organisation, of where the concept will intervene.

5.4 CREATING A NETWORK

The entrance to liveability in Rambøll and further involvement in this thesis seemed more feasible, if a network of people was created from the beginning. The network was initiated and established by simply 'passing the ball' to the next relevant actor in Rambøll, after each interview.

ANT was selected as method, in the attempt to get Rambøll 'on board' this idea of conceptualising liveability, using the company and employees as case. The main purpose of creating a network was to identify tensions that the individual employees had and between different occupations in the organisation. Finally a network would make easier to make an intervention with the concept by i.e testing it in projects or introducing it at a workshop.

Image 05. Network creation "passing the ball"
Source: (Granados & Kulasingam, 2017)

Actor network theory (ANT) is concerned with the different relationships and connections between human and non-human actors in a network, allowing for an analysis of the power and agency they have in relation to each other (Callon, 1986). In this thesis ANT is relevant for the project in order to create a temporary 'liveability network', from where actors can be followed, leading to new actors involved with liveability and also an exploration of the notion's conception in Rambøll.

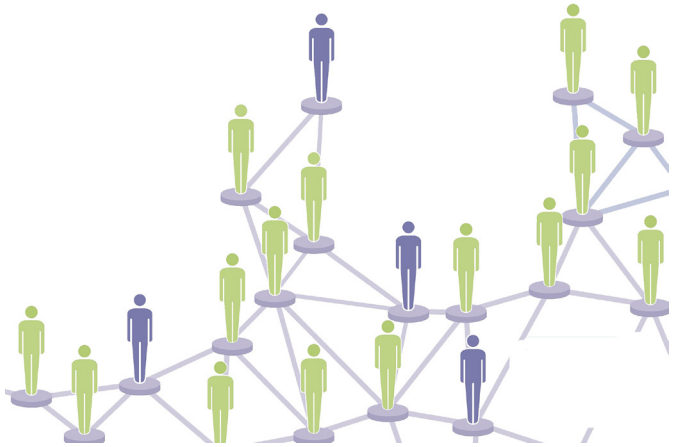


Image 06. Mapping actors of Liveability, diagram
Source: (Granados & Kulasingam, 2017)

The stability of the networks depends on the alignment of the network, which occurs through an optimal translation process, in which a constrained network of relationships will be built (Clausen & Yoshinaka, 2007).
In order to build a solid and interactive network, which could be used throughout the thesis period, the interviews made were also intended to catch interest. Callon's four moments of translation will be used as an analytical tool for visualising the process, in order to stabilise and optimally configure the network supporting an implementation of the concept (Callon, 1986). These moments of translation are detailed as followed:.

1. Problematization - This phase is to identify or create the need for a problem.

The need for conceptualisation of liveability will be presented in each interview, argued and justified by the literature research and by stating any tensions concerning liveability that previous interviewee would possibly present.

2. Interessement - This is concerned with the identification of the involved actors, stating their interests and beginning negotiating the terms of their enrolment into the network.

Simultaneously with the interviews, a monthly meeting with 'interested' actors were conducted to maintain the interessement and for justifying the need for conceptualisation by showing preliminary findings.

3. Enrolment - The actors are connected, aligned and take a place in the network. If interessment is succesful, enrolment will be achieved.

4. Mobilisation - The connected network handles the problem or agenda which is established in the problematization phase.
Mobilizing actors outside the network to participate, by using existing one as agents.

In order to make the employees interested, enrolled and mobilisation around the topic of liveability, qualitative methods as interviews and workshop needed to be executed. This would not only provide the necessary data for the design of the concept, but also make the first effort to get people involved around this topic.

5.5 INTERVIEWS

The very virtue of qualitative interviews is their openness. No standard procedures or rules exist for conducting a research interview or an entire interview investigation. (Kvale, 2009). The openness seemed necessary in terms of revealing the initial conception of liveability within Rambøll. Having examined existing literature, which indicated a diversity of conceptions concerning liveabilty, it was found necessary to approach Rambøll in qualitative interviews - to put words on the thoughts about liveability.

The interviews conducted in this thesis are either conducted as semi structured interviews or as unstructured interviews/ conversations.

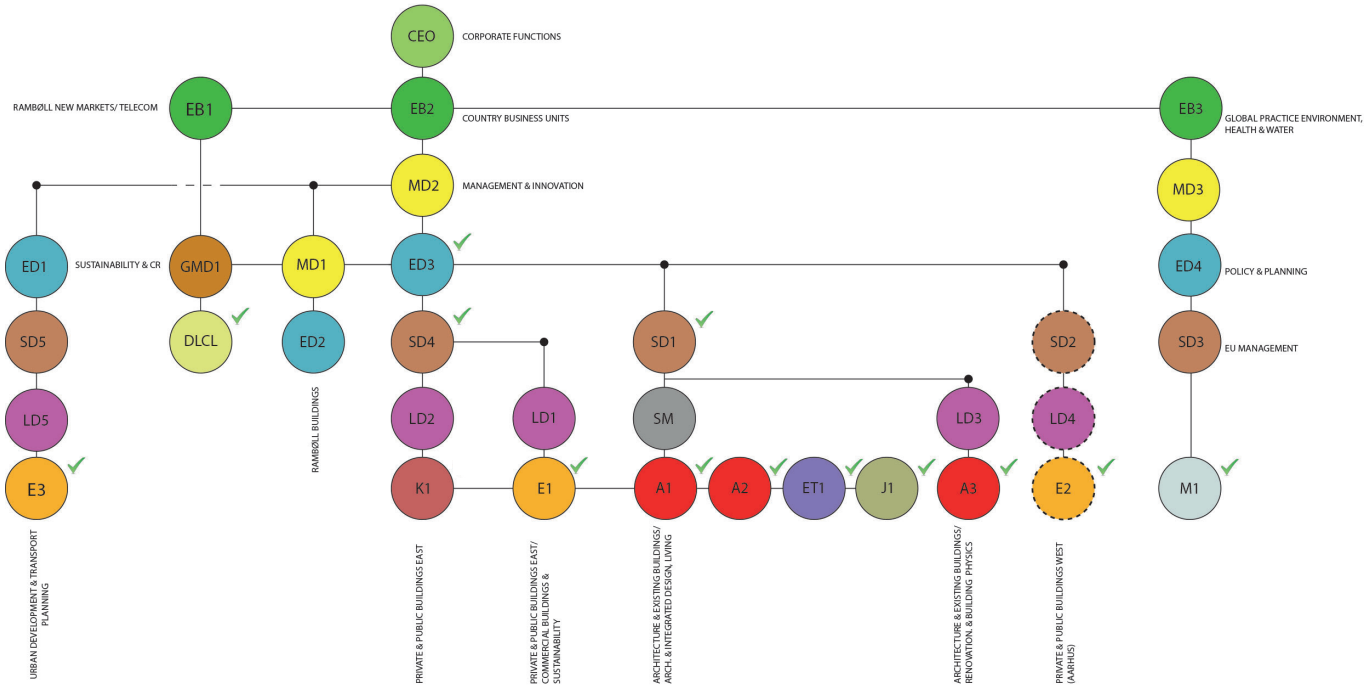


Image 08. Interview mapping diagram at Rambøll
Source: (Granados & Kulasingam, 2017)

Twelve interviews were conducted within the Rambøll organisation, involving employees from the different departments, professions and organisational levels.

11 of the interviews were conducted in a semistructured format

1 of the interviews was conducted in a conversational/ ethnographic format.

The different interviewees with their professions and positions will be described in the analytical section.

All the interviews were tape recorded and transcribed (see in Appendix and taperecords on USB pen), others were analysed simply by noting key quotes. Additional notes were taken in order to immediately outline any correlations or references to other persons, elements of liveability, company philosophy etc.

Table 07 (Veal, 2011)

Interview type	Question format	Responses	Interviewer/interviewee interaction
Semi-structured	Checklist: question format not prescribed	Open-ended	Conversational, variable
Unstructured	Only the broad	Open-ended	Free-flowing conversational, variable

Table 07 shows how the division of interview types were provided. A further explanation of the two different interview format will be explained.

SEMI STRUCTURED INTERVIEWS

In a typical semi-structured interview the researcher has a list of questions or series of topics they want to cover in the interview, an interview guide (...), but there is flexibility in how and when the questions are put and how the interviewee can respond. The interviewer can probe answers, pursuing a line of discussion opened up by the interviewee, and a dialogue can ensue. (Edwards & Holland, 2013).

The interview-guide followed by the interviews were structured after Kvale's (2011) idealized seven-stage route for an interview inquiry – thematizing, designing, interviewing, transcribing, analyzing, verifying and reporting.

In relation to this thesis, it seemed reasonable to design the interview guides after Kvale's 'seven stage route'. The consistency and routine in structuring the interviews by pre-studying the interviewees background, department and relations were helpful for the thematizing and designing of the interviews.

A 'background check' of the interviewees and involved project contributed positively to the interviews. It allowed the interviewers to get on the wavelength as the interviewee, when something had to be exemplified or explained in a certain context. Somehow it made the interview more personal and conversational, than confrontative and impersonal.

This type of interview also seeks to obtain descriptions of the interviewees' lived world with respect to interpretation of the meaning of the described phenomena. It comes close to an everyday conversation, but as a professional interview it has a purpose and it involves a specific approach and technique; it is semi-structured – it is neither an open everyday conversation nor a closed questionnaire' (Kvale 2011) The balance between keeping an agenda and still provide a certain level of openness to the interviewee, would allow the interviewee to move out context and talk "open-minded" about liveability. Capturing the conception of liveability in relation the interviewee daily life, projects etc. is key towards creating a concept everyone can relate to.

UNSTRUCTURED INTERVIEW

As table 08 shows, the unstructured interviews invites to free- flowing conversational interviews, where the broad topic area is prescribed. The only unstructured interview was conducted with A2 and ET1, in the early phase of the thesis.

The idea of conducting an unstructured interview came to mind, because of A2 and ET1's background respectively as an ethnographer and an architect with a ph.d social sustainability. Their backgrounds were interesting and unknown in terms of how they perceived liveability and worked with the social aspects in their particular field. The intention of the unstructured interview was to generate a 'workshop setting' by showing the concept mapping, preliminary findings and discuss the creation of the concept.

These initiatives were presented and used as a reference point in the conversations, to ease the communication and any vagueness concerning the topic. As Zhang and Wildemuth (2009) refer it, 'the interviewer follows the interviewees' narration and generates questions spontaneously based on his or her reflections on that narration'. Capturing the narration and the certain type of language used in the selected interviewees, was important due to undefined vocabulary of liveability. The attempt on creating an open dialogue/debate between interviewer and interviewee(s) was the main purpose of conducting this with A2 and ET1.

CODING

The interviews were then transcribed and coded following the procedures of Cofey & Atkinson (1996). Coding seemed to be an appropriate method to analyse the interviews for the later concept building.

Cofey and Atkinson (1996) state that coding links different segments or instances in the data. We bring those fragments of data together to create categories of data that we define as having some common property or element. We define them as being about or relating to some particular topic or theme. The coding thus links all those data parts to a particular theme.

The coding will be beneficial in relation to tracing any tensions concerning the work with liveability. In relation to the conceptualisation, it will also help highlighting, how the school of thoughts are represented in Rambøll, by 'categorising' the different interviewees.

5.6 NETWORK MEETINGS

Simultaneously with the interviews, informal meetings were carried out at Rambøll on a monthly basis, with a growing assembly of people.

The intention of the meeting was to maintain the contact, interessement and enrollment of the key actors within Rambøll, by using these informal forums to share and acquire new knowledge, findings and always strengthening the conviction of how a conceptualisation of liveability will benefit.

Totally, 5 meetings were held with a duration of 1,5-2 hours and involving employees from different departments.

The engagement in these meetings, did also show that there was need for discussing liveability and how it should be part of the daily working practices. From an observants perspectives it was therefore also interesting to get the first insight in how multiple disciplines communicate and express their thoughts about liveability.

5.7 EVENTS/PUBLIC PRESENTATION

Several events inside Rambøll and outside have been followed during the period of this report.

Outside the organization, we attended a debate called LiveabilityMAX at Space 10 in Copenhagen.("Approach | SPACE10", SPACE10, 2017), where the mission was to

investigate the future of urban living by detecting major challenges that will impact people on a global scale, and exploring possible solutions. The overall goal was to create opportunities for a better and more sustainable way of living in the future.

LiveabilityMAX was the first In-Between Economies Friday meeting, and provided a platform for progressive debate about the future of liveability in the modern city using Copenhagen as an example.
Lectures by architects, economists and members of the Copenhagen municipality were presented.

JAN GEHL LECTURE

Architect and professor Jan Gehl presented his point of view about architecture, senses, patterns and human behaviors. He explained the importance of space, scale and details of life in the city. He is graduated as an architect and he had been schooled in how to "*do modern cities, with high-rises and a lot of lawns and good open space – good windy spaces*". In the years that followed, he would develop the thinking that has made him a pioneer of so-called "liveable cities" around the world. This lecture provided a view on liveability from a postmodernistic architect.

5.8 WORKSHOPS

Introducing a workshop as a 'first attempt' in integrating different professions into collaborative arena, seemed obvious due the fact that workshop contain the possibility of collaborating and discussing across multiple exercises. In the discussion chapter, the workshop conducted in Rambøll will be explained further.

Next, a short summary of principles that according to (Sork, 1997) stays important to workshop planning:

Recognizing the Importance of Diversity: Gender, race, ethnicity, and class are still principals, but other forms of diversity, covering sexual orientation, linguistic background, religious orientation, ability or disability, and so, represent differences with implications for workshop planning.

Involving Stakeholders in Planning. The interplay of power and interests in planning and the complexities of involving other people in the process are the essence of this level of planning.

Understanding the Importance of the Context in Which Planning Occurs. The context (social, economic, cultural, political, organizational) of planning has long been regarded as important.

Clarifying the Aims or Goals of the Workshop. Alternatives to objectives, such as descriptions of purposes, processes, benefits, and content are less precise than objectives, but they also require much less effort and do suggest outcomes, although indirectly.

Incorporating Workshop Processes That Actively Involve Learners. Workshops are, by definition, active learning environments where participants expect hands-on practice and a high degree of interaction and collaborative learning.

Choosing Facilitators or Instructors and Instructional Resources with Great Care. The interpersonal dynamics of workshops can be a challenge to manage. The study reported by Lewis and Dunlop (1991) confirmed the importance role instructors play in the success or failure of programs. In order to achieve a successful workshop, facilitators possessed not only the skills necessary to engage people in the learning task but also the personality characteristics and sensitivities that allow them to respond appropriately to unpredictable process issues such as conflict, confusion, and communication problems.

Other resources, such as physical space, films or videos, and print materials, must also be selected with sensitivity to issues such as inclusiveness and accessibility.

Image 09. Source: "How To Design Great Workshops". Strategyzer. N.p., 2017

Promoting Application of Learning as a Central Theme. Because the participants expect workshops to be immediately helpful in some way, attending to issues of application of learning in planning is vital. Workshops can be designed to enhance the prospect that what is learned will be applied in the learner's natural environment, but it is not always clear which design elements will be most effective in promoting that application. (Sork T.,1997)

5.9 CODESIGN

Co-design is presented as a possible solution to meet some of the targets the new Rambøll strategy "*winning together*" presents, where the main goal is to be more client-centric.

According to (Sanders, E.B.-N. & Stappers, P.J., 2008) Co-design is a rather new term that refers to a process in which different designers or designers and other actors engage in jointly designing a product or a service. The 'co' is thus a reference to 'collaborative' which shows that the traditional role of the designer as the sole-creator of new 'things' is changing – actually changing rapidly.

CoDesign can be one of the tools that will help different disciplines working in an organization like Rambøll to work together because its impact on the roles of the players in the design process.

Bringing co-design into design practice seems to be able to cause a number of changes. The person who will eventually be served through the design process, in many cases the user and client, is given the position of 'expert of his/her experience', and plays a large role in knowledge development, idea generation and concept development. In generating insights, the researcher supports the 'expert of his/her experience' by providing tools for ideation and expression. Boundary objects, like for example images, field notes, maps, etc. can be used, helping to share each other's knowledge and learn from every individual. Another tool can be the creation of a common vocabulary for the participants, produced by the different disciplines, which will enhance several meanings of the same word and will be related with each of the professions involved.(Ibid)

6 DESCRIPTIVE EMPIRICAL MATERIAL

6 DESCRIPTIVE EMPIRICAL MATERIAL

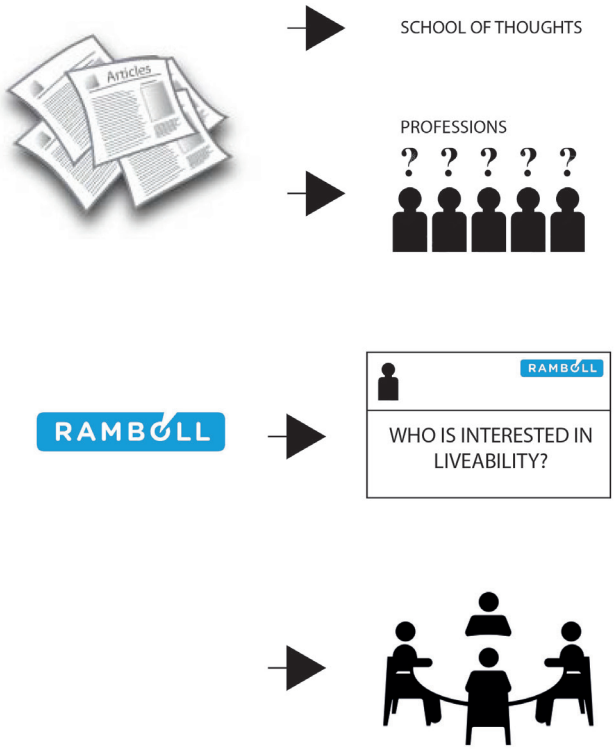


Figure 10. Source: (Granados & Kulasingam, 2017)

The figure 10 shows how this chapter is divided. In order to produce the descriptive empirical material we started reading literature where the notion liveability was involved. An explanation of the notion through the years will be explained, through different views and mindsets. These mindsets were traced to different schools of thought, that had an influence on the notion. These were labelled as modernism, postmodernism, and functionalism and will be unfolded with a description of their main characteristics and ideas.

Many professions were recognized, shaping liveability into the notion it is today. Professions like geographers, architects, urban planners and sociologist, among others, influenced the notion by providing a specific approach. An explanation of these points of views will be ordered by professions and in addition key authors will be presented.

The second part of this section will be about Rambøll. A brief explanation of the company´s history, departments involved and philosophy of work will be elaborated. Furthermore there will be a presentation of the new strategy "*Winning Together*".

6.1 LIVEABILITY

Liveability as notion, term, design application, indicator etc. has been a part of different subject areas throughout time, particularly concerning urban planning, architectural and construction fields. This dynamic development has implied that there is no established theoretical framework or uniform definition of liveability, and the liveability literature consists mainly of empirical studies, which generally involve a direct comparison of a composite measure over different geographical areas (Woolcock, 2009)

The following figure 11 shows how liveability, as a notion, has shifted orientation from being a spherical aspect of urbanisation in rural areas (Kaal, 2011) to a notion concerning the relation between humans and the social environment (Gehl,2010)

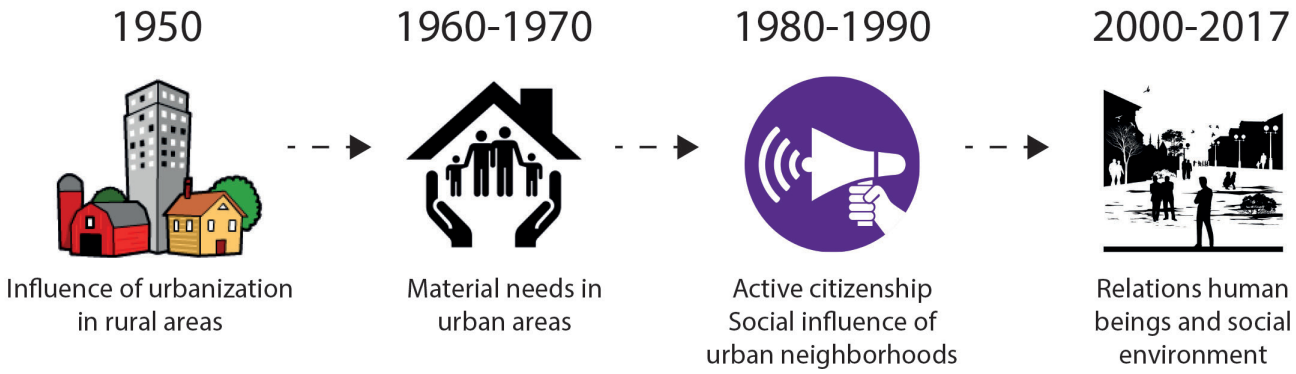


Image 11. Development of the term Liveability
Source: (Granados & Kulasingam, 2017)

1950' - MODERNISTIC LIVEABILITY

Livability emerged as a key concept in Dutch rural geography against the background of concerns over rural citizenship. Those living in rural areas came to judge their situation as backward compared to life in cities (Kaal,2011). They tended to equate a modern lifestyle with living in cities (Tonkens, 1960, p. 6). As a result they moved to the cities.

The difficulties within the post-war period was now substituted by a huge migration towards the cities, where the housing shortage was high. The modernistic mentality, which permeated this period resulted in quickly and effectively constructed accommodations for people. (BHU, 2013 p. 8). This resulted a negative impact on liveability in rural communities, due to the fact that agriculture and other businesses needed people. There was a need for measuring liveability, to identify where and why people would move.

Rural geographers therefore tried to figure out how rural livability could be preserved, through the enhancement of the income level by raising productivity levels in agriculture, the improvement of infrastructure and housing (Kaal, 2011).

This positivist approach gave rise to discussion amongst sociologists, who discussed whether liveability should be approached objectively through hard facts or in combination with subjective facts as well. The Dutch sociologist Groenman stated that liveability were 'conditions which need to be met in order that people and society are able to develop themselves according to reasonable standards' (Groenman, 1959).

The Dutch attention for urban livability should be seen against the background of an international outburst of studies on the negative impact of economic growth and modern functionalism on cities.

1960'S & 1970'S -

Materialism and modernism still seemed to influence the fundamental conception of liveability.

In the 1960s and 1970s, livability was at the core of post-materialist values, as a value-system relating to the desire for fulfillment of material needs (such as security, sustenance and shelter) and an emphasis on material luxuries in a consumerist society. This movement rose to prominence in the urban arena and urban social movements used the concept to go against the excesses of the prevailing growth-centered urban politics and the doctrine of modern functionalism, but criticism long remained marginal. (Kaal, 2011).

Veenhoven (1996) points out that in the first half of this century, quality-of-life in nations was largely measured by the material level of living. The higher that level in a country, the better the life of its citizens was presumed to be. As such quality-of-life was measured by GNP (Gross National Product) related measures, currently by 'real' GDP (Gross domestic Product) per head.

Yet in the 1960's, the opinion climate changed. Saturation levels were reached and the ecological limits of economic growth came in view. This gave rise to a call for broader indicators that were part of the term liveability, quality-of-life, which was materialized in the called 'social Indicator' movement. The name of 'social' indicator´ signifies that the mere economic performance does not suffice.(ibid).

Myers (1988) indicated that there was a rising within the thinking of liveability in an urban context. Liveability was moving away from the modernist and functionalist mentality, towards post modernistic tendencies. 'Quality of life' emerged as a concept within the Social Indicators Movement of the 1960s and questioned basic assumptions about the relationship between economic and social well-being and the complex nature of individual and social material and immaterial well-being. (ibid) It became more human focused pointing towards post-modern mentality, which was highlighted by Jane Jacobs, who criticised the planning at the time for being abstract and human distant (Gehl & Svarre, 2010).

Methodologically, she dealt with social, economic, physical and design parameters, in order to provide a holistic understanding of the relation people and public space. (Jacobs, 1961) Something, which have affected the conception and configuration of liveability until today.

1980'S & 1990'S

After the oil crises of the 1970s, the movement to establish eco-friendly cities began to take shape. The term "eco-city" emerged near the end of the 1980s. Concepts such as "ecopolis" and "amenity town" appeared in Europe and Japan respectively in the 1980s (Lye & Chen, 2010). The eco-city is also designed as an instrument for human purpose around principles of social equity (creating fairness and opportunity for citizens) and aesthetics (relating urban design to the surrounding physical environment). (Joss, 2015). Involving citizens was a key topic. The post-modernist mentality evolved from the late 70's into the 80's, where a key feature of many of the studies on livability policy was an emphasis on the need to improve citizen participation; citizens needed to be involved at an early stage of the policy-making process (e.g. Gemeente Den Haag, 1980). One of the reasons for this was the wave of 'democratization' and 'decentralization' that characterized the 1970s and early 1980s (Kaal, 2011) .

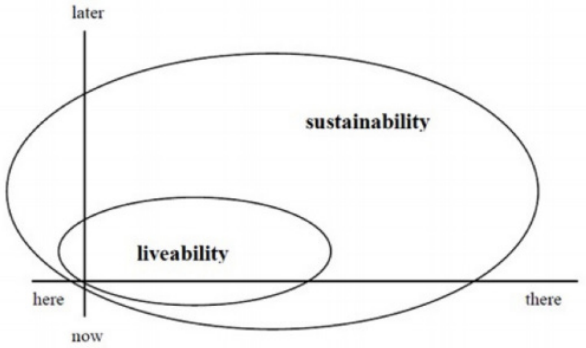
The scope of liveability, now also embraced topics of human oriented circumstances shifting focus from being mostly oriented towards the physical assemblages.
Urban governments attempted to promote a new kind of active citizenship. In the 1990s livability was increasingly used by urban government and housing corporations to influence the social composition of urban neighborhoods. For example, in the UK, the concepts of vitality and viability were used to assess city centres' health (DoE,1994). Used together, these two dimensions refer to whether the city centre felt lively to people and whether it has a capacity for commerce to live in it.
The term was also used by new, local political movements that emerged by that time. Many of these parties even used the word livable in their name, like Livable Hilversum (Leefbaar Hilversum) (Kaal, 2011)

Not only did liveability become a political interest, it did also attracted interest around several professions, resulting in the founding of The International Making Cities Livable Conferences in 1985. Until 2003 they were held biannually in the United States and Europe. Since then, they have been held just once a year. These conferences are unique in enabling city officials, architects, planners, developers, community leaders, behavioral and public health scientists, artists and others responsible for the livability of their cities to exchange experiences, ideas and expertise. (IMCL,2017) . IMCL started looking at the quality of life of people. Once fundamental health and safety is achieved, standard of living issues are not directly correlated with happiness, with a sense that life is meaningful, that we are of value to others, and that there is much to be discovered and celebrated in the human and physical world around us. These are important aspects of quality of life and are profoundly influenced by the built environment (National academy press, 2002)

Finally the notion livability also gained popularity through the increase in prevalence of annual surveys that rank the world's most livable cities, such as the Mercer Worldwide Quality of Living Survey1, and "The World's Most Livable Cities. These annual surveys, were mainly based on quantitative data - an approach which in 00's was further discussed.

00 - PRESENT

In the 2000's and 2010's liveability seemed to be riding on the policy wave and now with sustainability as a driver. Caradonna (2014) states that we might not live in a sustainable age, but we're living in the age of sustainability. Since 2000, the social dimensions of sustainability have gained greater attention vis-á-vis economic and environmental dimensions. Now almost anything can be viewed through the prism of sustainability - education, mental health, urban planning, gardening , architectures and so on (Caradonna, 2014).



Duijvestein's (2002) model places liveability within the broader sustainability agenda, differentiating between the longer-term and global perspective of sustainability and the more localised and immediate concerns of liveability.

Image 12. Source (Duijvestein, 2002)

Where sustainability is distinct in its emphasis on a long-term outlook, and its related call for constraints on human desires in order to ensure the wellbeing of future generations (Lowe et.al, 2013), livability is about "now" and "here," focused on immediate and tangible conditions and interventions, and therefore interpreted as more achievable (Ruth & Franklin 2013). The 'now' and 'here' mentality of liveability does also cause a shift in the general approach to liveability as Gehl and Svarre (2010) state, there is a paradigm shift from quantitative objectives to qualitative objectives around the millennium.
There's an increased focus on objective and subjective approaches to for instance quality of life (Das, 2007) . Global ranking tools are also criticised and discussed for providing the false truth about the condition of a nation or city. For example, cities that are ranked favorably in terms of affordable housing in one survey may perform poorly in the same category in other surveys. The reason for such variation is that the weighting assigned to dif-

ferent categories, such as education, healthcare, public services, social equity, transportation, natural environment, and infrastructure, is relatively subjective and varies according to the survey. (Kashef, 2016). When it comes to researching communities, and social life within them, big data's quantity does not guarantee insight. Patterns can show correlations, but they do not reveal all causes. People's motivations are researchable, and qualitative research yields insight that quantity alone cannot provide. Thus Kaplan (2016) argue for the importance of a classic anthropological form of inquiry, ethnography.
The need to provide a high level of liveability by including these subjective/qualitative studies exploring the relationship between human beings and the social environment (Kaal, 2011) is important in relation to the existing sustainability timeage.

"Livable sustainability" has been discussed elsewhere as the result of accommodating short-term, urgent needs or desires of community within a plan for larger scale, longer-term prospects of sustainability (Allen 2010; Holden and Scerri 2013). In this sense, livability constrains sustainability, but does not directly orchestrate it. Instead, sustainable outcomes result over time through a series of liveability outcomes. (Gough, 2015)

The brief description of liveability indicates a need for understanding, the different mentalities or schools of thought permeating particular time-periods. Having a certain way of thinking is reflected in how liveability have been approached and discussed within the context of urban planning and architecture.
It is also important to mention that the different person, who have been mentioned in relation to liveability have different occupations and have been entering liveability in different time periods. This as well as the school of thoughts will we be elaborated in the following paragraphs.

6.2 SCHOOL OF THOUGHTS

As the description of liveability indicated, the notion has been shaped and perceived with a strong influence in different schools of thought. 'The way of thinking' of something has been shifting throughout history. In relation to liveability, authors, researchers etc. have described it through lenses of different thoughts. These thoughts have through literature been identified as : Modernism, Functionalism and Postmodernism. In this paragraph, the schools of thought will be unfold and their main characteristics in terms of thinking will be described. For clarification, the different schools of thought are described generally and in relation to urban planning and architecture, due to the fact that liveability has its advent in these areas. (Chiesura, 2004; Das, 2008; Vine et al.,2012)

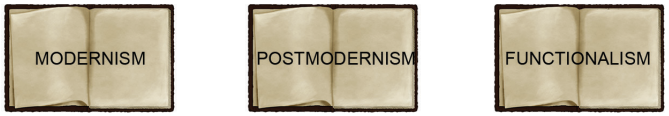


Image 13. Liveability. School of thoughts
Source: (Granados & Kulasingam, 2017)

6.2.1 MODERNISM

Thinking mentality
Modernism appeared from wide transformations in Western society during the late 19th and early 20th centuries. Among the factors that shaped modernism were the development of modern industrial societies and the fast growth of cities, followed then by reactions from the World War I.
According to (Stephen L,1991) "the modernist novel does not reject external reality entirely; rather, it concerns itself with the relationship between the individual consciousness and the external reality that it confronts. Perceiving a gap between the meaningful inner life of the individual consciousness and an outer world that shapes that inner life but seems in itself devoid of spiritual meaning, the modernists sought a means to bridge that gap, to glean a meaning from that apparently senseless outer world".
Modernism refused the conviction of Enlightenment thinking, and many modernists denied religious belief. This rejection of all religious and moral principles as the only means of obtaining social progress was based on its arbitrariness, its conformity and its effort of control over human feelings. In other words, the rules of conduct were a prohibition and a limiting force over the human spirit. The modernists believed that for an individual to feel whole and a participant to the re-vitalization of the social process, he or she needed to be free of all the inconvenient baggage of hundreds of years of hypocrisy. (Lewis, 2000)
Observers defined modernism as a way to think—one or more philosophically defined characteristics, like self-consciousness or self-reference, that run through all the novelties in the arts and the disciplines.(Ibid)

Modernistic urban planning and architecture
Walter Gropius (1883-1969) and Le Corbusier (1887-1965) were the leaders of the movement within urban planning and architecture. Modernist architects and designers, believed that new technology represented old styles of building obsolete. Le Corbusier thought that buildings should perform as "*machines for living in*" (Le Corbusier, 1927), comparable to cars, which he saw them as machines for traveling in. Just as cars had replaced the horse, so modernist design should refuse the old styles and structures inherited from Ancient Greece or from the Middle Ages.
Following this machine aesthetic, modernism embraced minimalism becoming the dominant global movement in 20th-century architecture and design.
According to Le Corbusier (1942) architecture was defined as the play of volumes under the light and emphasized the importance of proportions and regulating lines.

"*L'architecture est le jeu savant, correct et magnifique des volumes assemblés sous la lumière*" (Ibid).
Modernist designers typically refused decorative themes in design, stressing the materials used and pure geometrical forms in instead. (Lewis, 2000)
In fact, modernism appeared mainly in consumer/capitalist societies, despite the fact that its supporters often rejected consumerism itself. However, high modernism began to merge with consumer culture after World War II, especially during the 1960s.

UN Habitat (2009) defines three essential components characterizing the planning for most of the 20th century. The first was that it was seen as an exercise in the physical planning and design of human settlements; hence, while it responded to social, economic or political matters, it was not seen as the task of planning to intervene in these matters. Planning was therefore perceived as a technical activity to be carried out by trained experts without the involvement of politicians or communities.
Second, planning involved the production of master plans, blueprint plans or layout plans, showing a detailed view of the built form of a city once it attained its ideal end-state. Gehl calls this the "Brasilia syndrome:" the "city looks fantastic from the air, but is shit on the ground".(Gehl & Svarre, 2010).
Third, planning was viewed as a normative task that should be driven by a particular set of values which described the ideal living environment and, in the view of planners, reflected the 'public good'. Broadly, these values tended to be quite specific to the time and place in which they were formulated. (ibid)

Modernism in architecture and planning begins by distancing itself from the norms and forms of bourgeois urban life, which tries to subvert by proposing both a radically different future and a means to get there (Holston, 1989).

Criticism of modernism

The modernistic approach to architecture and urban planning, gave rise to static blueprints such as master plans that were de rigeur and rigidly applied to cities around the world. (Beall & Fox, 2009). Static planning fails to accommodate the way of life of the majority of inhabitants in rapidly growing, and largely poor and informal cities, and thus directly contributes to social and spatial marginalization or exclusion. Furthermore, it fails to take into account the important challenges of 21st-century cities (e.g. climate change, oil depletion, food insecurity and informality), and fails to acknowledge the need to involve communities and other stakeholders in the planning and management. (UN-Habitat, 2009).
The fundamental problem with modernist urban planning (...) was that it was used to 'put people in their place' without paying much heed to what people were doing and what they wanted. (Beall & Fox, 2009) The lack of including people's interest also reflected the general conception of an urban planner, as Le Corbusier stated ' the urban planner is nothing but an architect' (Irving, 1993)

Fifure 14. Times Square New York, Jan Gehl (2010)

Figure 14 illustrates the difference in between modernist and postmodernist approaches. Times Square in New York as an example embraced the ideas of postmodernism and people centred design as Jan Gehl defines it (Doig, 2014). The car invaded picture on the left expressed the technologically oriented mentality, which directed the design of cities, in comparison to the people centred design on the right.

6.2.2 POSTMODERNISM

Postmodernism came as a result of accumulated resistance against the modernist thinking, that permeated in a changing world. Acknowledged postmodernists as Jane Jacobs (1961) argued that the rigid visions of how the ideal city ought to work are invariably inconsistent with how they actually work. When it comes to the urban context Irving (1993) argues that modernists call it urban planning; postmodernists call it urban design. The no-frills architecture guided by the "*less is more*" and '*form follows function*' aesthetic of Le Corbusier, Frank Lloyd Wright etc. was now substituted with advocacy planning and participatory models of planning, where diversity and heterogeneity were highlighted (ibid)

The key belief that characterizes postmodernism is a severe awareness of our "situatedness" as humans. Postmoderns deny that there is any overarching story, or metanarrative, to the world. Therefore, we all come from a perspective, that is shaped by the culture, or the "*little stories*," we inhabit. As Kevin Vanhoozer states, "*Postmoderns are so preoccupied with the situated self that they cannot get beyond it.*" Because of this "situatedness," no one can claim objectivity for his or her views. (Vanhoozer K.,2005)
In the latter decades of the 20th century, architectural post-modernism, which sought to recover the historic aestheticism of the urban landscape, began a gentrifi-

cation process that has done much to alter the nature of city living.

This is the clearest difference between postmodernism and most other worldviews. Whereas the central concern of other worldviews is what the real world actually is, the focus of postmodernism is on how we perceive and how we describe what the world is. The list of concerns goes on and on especially for those affected by a postmodern philosophy and lifestyle.

Their concerns, for example, often include buildings, encouraging an unlimited amount of consumerism thus promoting a wasteful throwaway society at the sacrifice of the earth's resources and environment, while at the same time not serving the fair and equitable socioeconomic needs of the people.

According to (Singh P. R.,2011) " *postmodernists do not attempt to refine their thoughts about what is right or wrong, true or false, good or evil. They believe that there isn't such a thing as absolute truth. A postmodernist views the world outside of themselves as being in error, that is, other people's truth becomes indistinguishable from error. Therefore, no one has the authority to define truth or impose upon others his idea of moral right and wrong. Postmodernism's essentials are the opposite of modernisms. Instead of natural reality—anti-realism. Instead of experience and reason—linguistic social subjectivism. Instead of individual identity and autonomy—various race, sex, and class group-isms. Instead of human interests as fundamentally harmonious and tending toward mutually- beneficial interaction conflict and oppression. Instead of valuing individualism in values, markets, and politics calls for communalism, solidarity, and egalitarian restraints. Instead of prizing the achievements of science and technology—suspicion tending toward outright host* "

6.2.3 FUNCTIONALISM

The 1920s promoted the development of social functionalism, a humanistic approach to the social problems of housing and architecture. The goal of social functionalism was to create architectural designs that responded to housing problems and their attendant social problems. This American trend ran parallel to architectural modernist developments in Europe, but tended to work on a smaller and less programmatic scale than its European counterparts. (Aoki K., 1993)

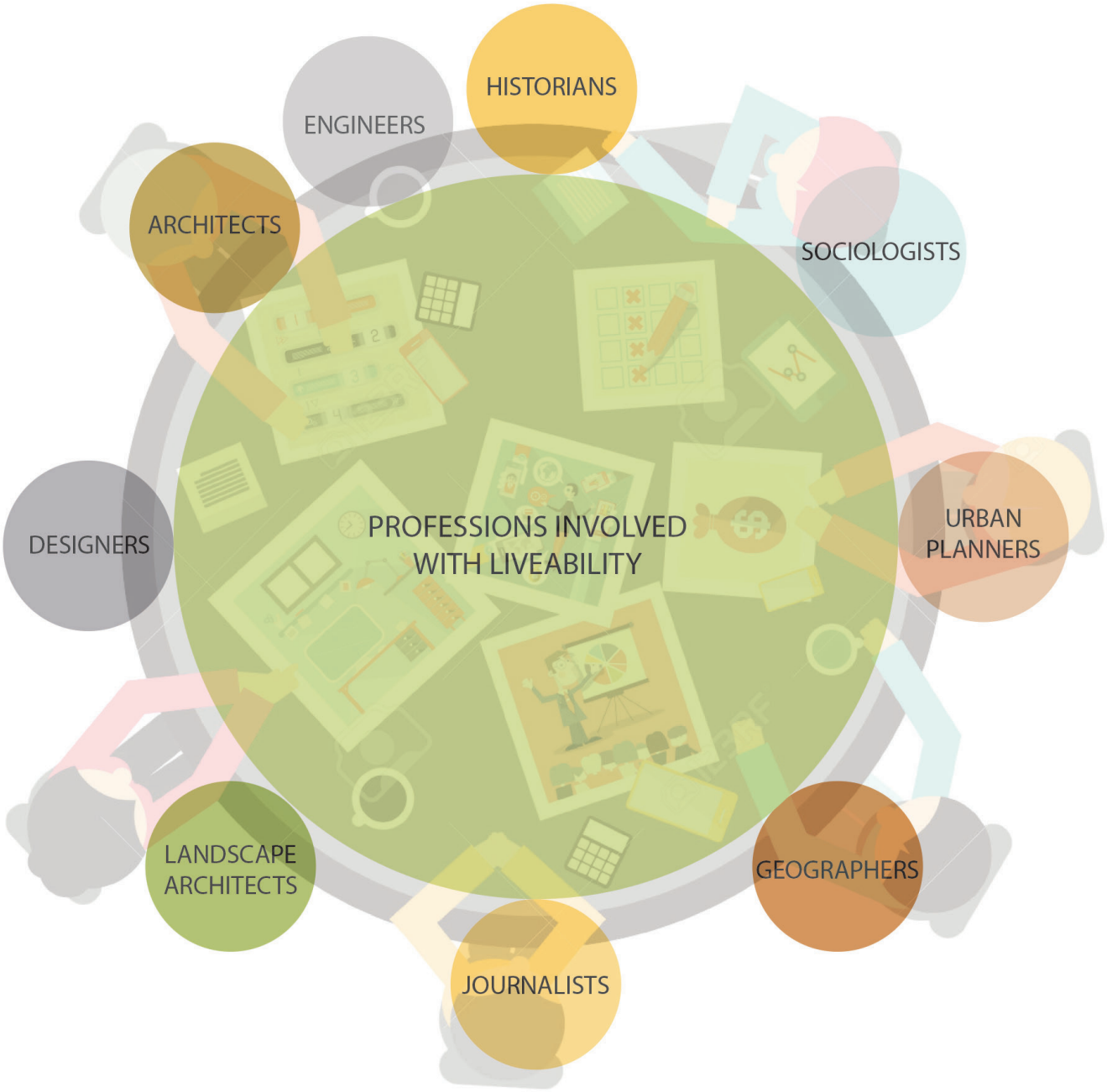
In the late nineteenth century a small but increasingly influential group of progressive reform-minded American architects turned their attention to the unhealthy, squalid conditions of the poor in the industrial city (Plunz, 1955). Seeking to design and promote healthful "social" housing, they looked toward the developing English tradition of functionalism and social housing, derived from John Ruskin and William Morris.(Ibid.) This tradition sought to improve occupants' living conditions by introducing such design elements as internal courtyards, light shafts that brought external light and ventilation to common stairwells, as well as radically reduced site coverage and inhabitant density.(Ibid.)

Functionalism has its origins in the works of Emile Durkheim, who was especially interested in how social order is possible or how society remains relatively stable. As such, it is a theory that focuses on the macro-level of social structure, rather than the micro-level of everyday life.
Functionalism interprets each part of society in terms of how it contributes to the stability of the whole society. Society is more than the sum of its parts; rather, each part of society is functional for the stability of the whole. Durkheim actually envisioned society as an organism, and just like within an organism, each component plays a necessary part, but none can function alone, and one experiences a crisis or fails, other parts must adapt to fill the void in some way.
Within functionalist theory, the different parts of society are primarily composed of social institutions, each of which is designed to fill different needs, and each of which has particular consequences for the form and shape of society. The parts all depend on each other. The core institutions defined by sociology and which are important to understand for this theory include: family, government, economy, media, education, and religion.
("Everything You Need To Know About Functionalist Theory", Thoughtco, 2017)
According to functionalism, an institution only exists because it serves a vital role in the functioning of society. If it no longer serves a role, an institution will die away. When new needs evolve or emerge, new institutions will be created to meet them.
The functionalist perspective achieved its greatest popularity among American sociologists in the 1940s and 50s. While European functionalists originally focused on explaining the inner workings of social order, American functionalists focused on discovering the functions of human behavior.
Functionalism does not encourage people to take an active role in changing their social environment, even when doing so may benefit them. Instead, functionalism sees agitating for social change as undesirable because the various parts of society will compensate in a seemingly natural way for any problems that may arise.(Ibid)

6.3 PROFESSIONS INVOLVED WITH LIVEABILITY

The different professions, who throughout time joined the notion of liveability, individually identified problems which needed to be encompassed by liveability. The theme of these problems were related to their own fields of study. The examination of these problems is important, in terms of visualising the scope of liveability and how the different professions approached liveability through their 'educational' lenses. Furthermore, It will also point towards the different professions in Rambøll, who are needed in a future liveability network or needeed to be involved in a workshop, to show their view on liveability in plenary.

The next image 15 shows the many professions identified concerning Liveability by the literature researched in this thesis.



Source: (Granados & Kulasingam, 2017)

GEOGRAPHERS:

Geographers: Problems

- Living conditions in rural areas
- Urban reform political party
- Interactions individual & environment

In the late 1950s in the Netherlands, the concept of livability was almost exclusively adopted by rural geographers and sociologists who were exploring the living conditions in Dutch rural areas. Some authors argued "Livability" was defined in suburban terms - as close to

nature, healthy, child-friendly, and community oriented. The concept emerged against the background of processes of modernization and urbanization. According to the Dutch rural geographer Tonkens, livability was 'probably typically modern. Although livability clearly is not an exclusively Dutch phenomenon, the Netherlands, however, seems to stand out in the variety of contexts in which it has emerged. (Pacione, 1990)

Also, urban geographers in an analysis of Vancouver politics in the late 1960s and 1970s observed the rise of 'a new ideology of livability' adopted by The Electors Action Movement (TEAM): an urban reform party. TEAM was a centrist political party from 1968 to the mid-1980s and it was most successful in the 1970s when it held the majority of council seats from 1972 to 1978. TEAM was founded by the Dr. Walter Hardwick, a UBC Geography professor and by Art Phillips, the head of a successful Vancouver investment firm.

This new ideology amounted to a new approach to urban development. TEAM used a language of livability to challenge the dominant, growth-centered approach which was to be replaced by a more 'humane, socially progressive, and aesthetic' policy: a focus on people rather than on the city's economy. Key elements of its policy agenda were a focus on 'participation, aesthetics, pollution control, more parks, neighborhood preservation, and mixed land use.

Relevant to this study is the characterization of urban livability as a human behavioral function that denotes the interaction between individuals and the environment (Pacione, 1990). In this sense, urban livability is a unique case of livability at large and has strong ties to the notion of urbanity.

Michael pacione
Michael pacione is a professor of geography. He has published research on a range of topics including land use conflict in the urban fringe; new settlements; ethnic minority settlement; environmental perception; residential satisfaction; local currencies; geographies of religious affiliation; critical analysis of urban policy; public participation in planning; sustainable urban development; poverty and disadvantage, and quality of life issues.

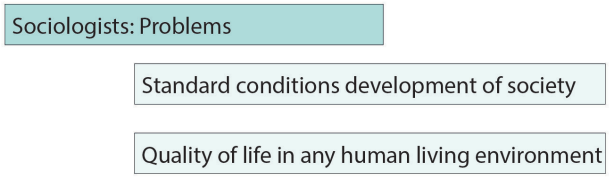
Eugene McCann, professor of Geography Advocates characterized livability as a 'discursive frame that both enables and legitimates entrepreneurial policy initiatives' (McCann, 2004) and as a discourse which 'privilege consumption and individual choice over collective responsibility and civic morality' (Hankins and Powers, 2009). This reflects liveability as a critical approach to urban studies arguing that livability often reflects the interests of elites who pursue an agenda of urban growth and are representing upper and middle-class interests.

Eugene McCann: University Professor Chair, Programs Department of Geography. His research interests are urban policy transfer, the relationships between urbanization and globalization, urban drug policy, and urban politics.

According to (Andersen and Van Kempen, 2003) housing corporations use livability to justify their gentrification projects, while social movements use livability in their calls for environmental improvement and citizen participation in policy making
Smart growth, urban transect, and transit-oriented development, among many other design manifestos, have been proposed to enhance urban livability and create more sustainable cities. Creating pedestrian-friendly enclosures and neighborhoods where residents can conveniently walk from home to work, school, and parks is central to the vision of livable cities of new urbanists.

Ronald Van Kempen:
Ronald Van Kempen was a geographer who significantly contributed to the discipline. He covered a wide array of topics related to urban geographies, ranging from globalization to post-war housing estates; from ethnic segregation to urban restructuring; from social cohesion to social exclusion; and so on. Ronald had a strong interest in urban policy as well and therefore was involved in many policy debates on urban restructuring, housing, renewal, urban governance and poverty.

SOCIOLOGISTS:



Sociologists argued that livability could be approached objectively and subjectively. For Sjoerd Groenman, livability referred to the '*conditions which need to be met in order that people and society are able to develop themselves according to reasonable standards*' (Groenman, 1959). These conditions, however, had no objective standard: conditions, which might be livable for one, could be less livable for the other. Groenman, nonetheless, argues that if we focus on a 'central core of values' to which most people will subscribe, we are still able to get an 'objective image' of livability. Those core values are 'proper housing and utilities, opportunities to communicate, social security, permanent employment, good health care, opportunities for social activities, sports, education […] and availability of shops'

Groenman is considered as one of the "fathers" of the Dutch sociology and he was the former Member of Parliament Louise Groenman. In 1943 joined Groenman, the National, which the polders of the Zuiderzee project

had to bring in culture.
Groenman published in 1950 "*Methods of sociography*" and Netherlands was pioneer in the field of empirical sociology.
A still interesting and actual work in the field of planning was released in 1959. "Our part in space: exploring the issues in the border area of sociology, social structure and planning."

An approach to liveability regarding the quality of life through human emotions and the living environment around was concerned by (Ellis and Roberts, 2016; Hagerty et al., 2001).

Michael R. Hagerty is a specialist in the new field of Happiness research and the study of positive emotions. He has consulted for governments from Greenland to China on how to improve quality of life for citizens.

HISTORIANS:

Historians: Problems

Utopianist urban planning

Human engagement with civic life: citizenship

Urban governance: Institutions & government

Historians like Colin Rowe and Fred Koetter in the 1970's had an influence through the collaging of variety of urban elements including shaped, figural open space into the continuous fabric of a city. In the other words, they proposed the concept of "bricoleur". They developed their ideas of a "Collage City" as an essay. Colin Rowe's and Fred Koetter's concept of collage made a critique of modern utopianism and a proposal for radical heterogeneity of appropriated form. All these would seem to summarize much of architectural postmodernism.

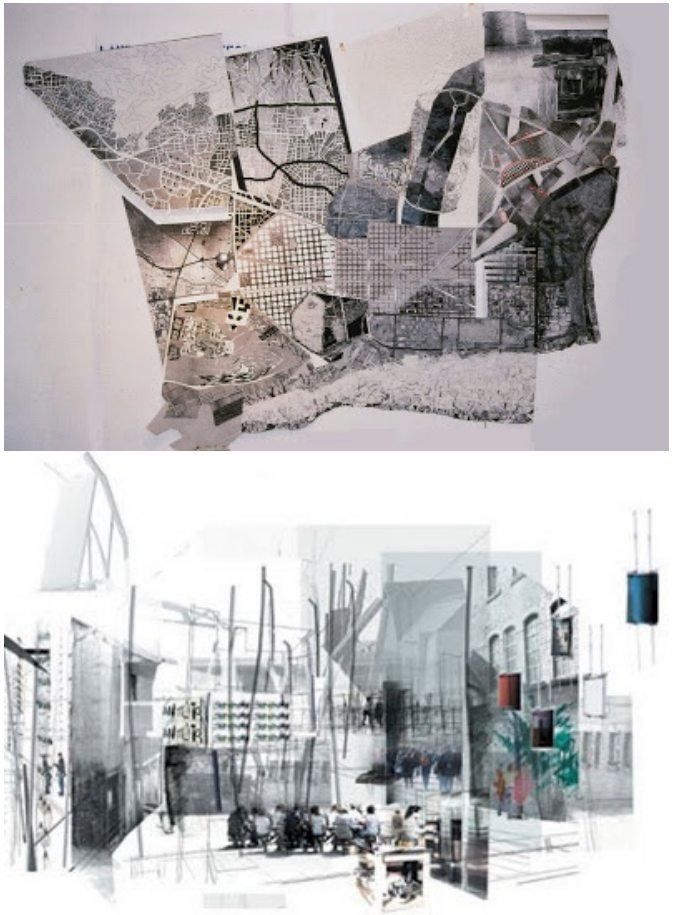


Image 16.
Source: "Collage City". Sun-after-rain.blogspot.com

From Thomas Moore to Le Corbusier, people –or people with a more predominant fox side- have dreamt of "ideal city", meanwhile real cities have been shaped by the accumulation of step-by-step progresses, unfinished intentions and obligatory compromises. ("FROM COLLAGE CITY / Colin Rowe And Fred Koetter")

Colin Rowe:
American-naturalised architectural historian, critic, theoretician, and teacher; acknowledged as a major intellectual influence on world architecture and urbanism in the second half of the twentieth century and beyond, particularly in the fields of city planning, regeneration, and urban design.

Fred Koetter: Koetter's achievements are in the field of architecture, urban design and theory. His teaching contributes to the way in which professionals interpret the modern city. Koetter, Kim and Associates developed the urban design and master plan, which reinforces existing street patterns and inner city public open space.

According to Simon Gunn (2007) a normative concept that means that how people define livability or try to improve it reveals much about their visions on society, on the relationship between human beings and the social environment in which they live. Two—closely related—democratic notions in particular are connected with the concept of livability: citizenship and governance. First, livability contains views on citizenship: the rights and duties of citizens within a given political community and the ways in which they are engaged in civic life. Second, livability discourse contains views on (urban) governance that refers to the interplay between institutions of government, agencies of civil society and citizens in the process of rule (Gunn, 2007).

Simon Gunn:
Simon Gunn is a professor of Urban history. He teaches principally in two areas: the social and cultural history of urban England since 1945, including topics such as housing, family, migration, sexualities, youth culture and social movements; and historiography and historical methods.

ENGINEERS

Engineers: Problems

Quantify inputs, outputs and storage of energy, water, nutrients, materials and wastes for an urban region

Engineers have also influenced the concept of liveability with a specific interpretation. In this case, approaching the notion of liveability from an urban metabolism perspective. The notion of urban metabolism is loosely based on an analogy with the metabolism of organisms, although in other respects parallels can also be made between cities and ecosystems. According to Decker (2000) cities are similar to organisms in that they consume resources from their surroundings and excrete wastes. “Cities transform raw materials, fuel, and water into the built environment, human biomass and waste”. Kennedy C. (2007) define urban metabolism as “the sum total of the technical and socio-economic processes that occur in cities, resulting in growth, production of energy, and elimination of waste”

Kennedy´s study of an urban metabolism involves ‘big picture’ quantification of the inputs, outputs and storage of energy, water, nutrients, materials and wastes for an urban region.

Christopher Kennedy is a civil engineer with interests in the economic and environmental aspects of sustainable urban infrastructure, including transportation, buildings and water systems; Design of sustainable streets and neighbourhoods. Christopher also apply principles of Industrial Ecology to challenges of developing sustainable cities and global infrastructure systems. Much of his work has involved the study of urban metabolism – the energy and material flows through cities – which underlies greenhouse gas emissions and other environmental impacts of cites.

URBAN PLANNERS:

Urban Planners: Problems

How individuals perceive and navigate the urban landscape

Viability in urban environment

Vehicular traffic and external incompatible uses by mainstram planners

Kevin Lynch made seminal contributions to the field of city planning through empirical research on how individuals perceive and navigate the urban landscape. His books, including The Image of the City and A Theory of Good City Form, explore the presence of time and history in the urban environment, how urban environments affect children, and how to harness human perception of the physical form of cities and regions as the conceptual basis for good urban design.

According to (Lynch, 1960) there were identified the five elements of urban legibility:

1. **Paths:** the streets, sidewalks, trails, and other channels in which people travel. They are the principal elements in urban space. The image of the path can be strengthened by distinctive facade ornamentation and spatial arrangements. An important characteristic of a road is that it must be identifiable and continue to the destination. People observe the city while moving through it along these paths the other environmental elements are arranged and related. They may be streets, pathways, transit lines, canals or railroads.
2. **Edges,** perceived boundaries such as walls, buildings, and shorelines. They help to define where one area ends and another begins. Edges can be better defined through aesthetic improvements such as gateway features, urban design elements, landscape and provisions for safe and convenient pedestrian and bicycle connections along and across these areas.
3. **Districts**, relatively large sections of the city distinguished by some identity or character: Districts are comparatively large city areas with familiar characters. The physical characteristics that determine regions are thematic continuities which may consist of an endless variety of components: texture, space, form, detail, symbol and so on. These elements are imaged and recognised in a characteristic cluster to establish a striking contrast. Besides, a positive reinforcement of clues is needed to produce a sharp image of an entire district.
4. **Nodes** are an intentional heart, which observers can enter, they can be squares, linear shapes, and central areas, etc. Fundamentally, there are two types of nodes: junctions of path and concentrations of characteristics. A successful node will attract people and be identified by a well-defined activity.
5. **Landmarks**, readily identifiable objects which serve as external reference points. Landmarks can be defined as marker, sight, attraction, sign, renowned, prominent. It is usually easily noticed and remembered which are effortlessly distinguished. The unusual appearance of any structure makes the presence significantly visible.

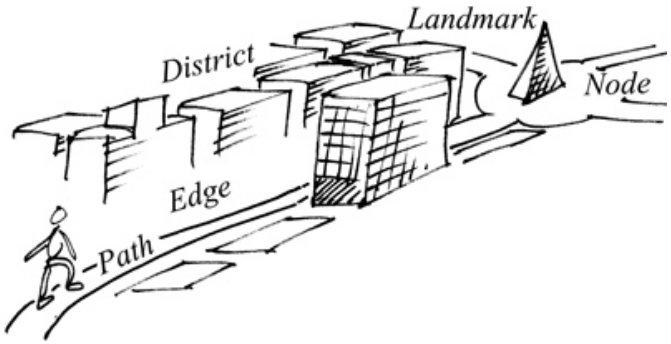


Image 17. Kevin Lynch found that in the fundamen-

tal structure of cities, walkways are not simply paths, but they can also create edges and nodes, define and strengthen landmarks and serve as district boundaries.
Source: ("IMAGE OF THE CITY, By Kevin Lynch | Innovault")

Together with these elements he added building typologies that affected and potentially improved the daily lives of people.

Other perspective from urban planners like Carlos Balsas argued that a city centre is only a vital place, with a sense of place and time, where the urban environment fits the human body and its activities well, it is accessible and can be controlled, but does not have the ability to attract continuing investment; it is not necessarily a livable place. Therefore, a livable city centre has all five Lynchean dimensions, plus viability. (Balsas C., 2004)

Carlos Balsas is an assistant professor in the Department of planning at the University at Albany. He is an urban and regional planner, who received his training in Europe and the US. His main research interests are urban revitalization and resilience, urban governance, non-motorized transportation planning, mega-event development, city and culture, and international planning. He has published books on commercial urbanism and city center revitalization, and written papers for refereed journals, edited volumes and conference proceedings.

Anthony James Catanese claimed that the systems approach views of the city as a collection of distinct social and economic components that can be physically segregated to optimize the performance and activities within each component. Perfecting vehicular traffic and reducing the externalities that emerge from the proximity of incompatible uses are regarded by mainstream planners as embodiments of urban livability. (Catanese, A., Snyder, J., 1988).
Anthony J. Catanese: Bachelor's degree in city and regional planning from Rutgers University. Master's degree in urban planning from New York University and Ph.D. in urban and regional planning from the University of Wisconsin–Madison.
James C. Snyder: Snyder has a comprehensive background in master planning, facility evaluation, programming, planning, design, project management and certificates of need preparation for health care projects varying in size from major tertiary care and community hospitals to free-standing ambulatory and diagnostic centers.
Others urban planners of interest in Liveability were:
Todd W. Bressi: known for his consulting with the Philadelphia Mural Arts Program, leadership of the design journal Places, and teaching at Penn and Pratt Institute — leads an innovative design practice that explores the intersection of city design, place planning and public art.

Andrés Duany: an urban planner and architect, founder of the Congress for the New Urbanism.

John Massengale: International thought leader on the connections between urban design, architecture, walkability, and placemaking. Designing projects in Europe and across America and shares with his audiences innovative and proven strategies for success. His planning work spans a range of situations from suburban retrofits and designing new towns to urban infill and urban regeneration. At every scale--from arranging rooms to arranging buildings to organizing street plans--Massengale emphasizes context and the importance of making places where people want to be.

JOURNALISTS:

Journalists: Problems

How cities function

Neighborhood activism

Jane Jacobs: Author, and activist best known for her influence on urban studies. Jane was an urbanist and activist whose writings championed a fresh, community-based approach to city building. She had no formal training as a planner, and yet her 1961 treatise, *The Death and Life of Great American Cities*, introduced ground-breaking ideas about how cities function, evolve and fail, that now seem like common sense to generations of architects, planners, politicians and activists.

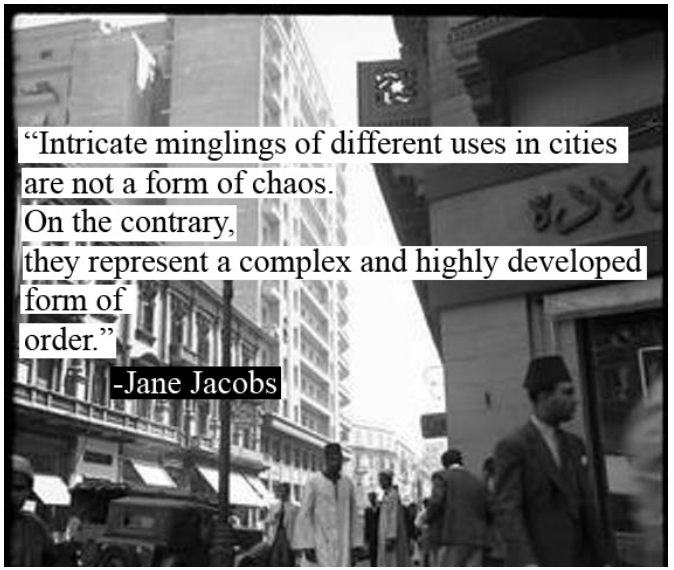
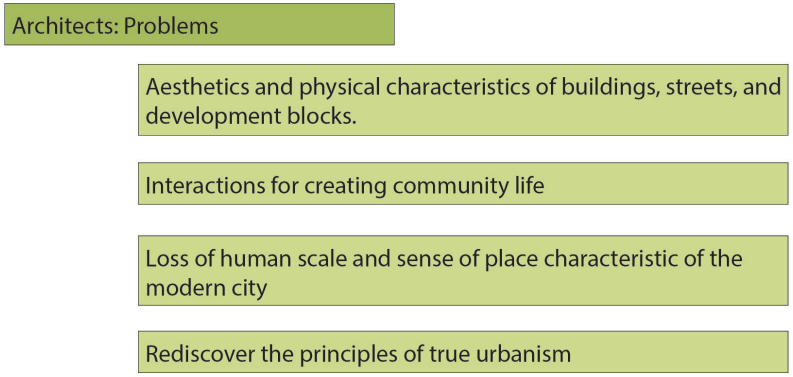


Image 18. Jane Jacobs thoughts
Source: "Jane Jacobs | CITIES LIKE DREAMS", Pinterest, 2017

Jacobs saw cities as integrated systems that had their own logic and dynamism which would change over time according to how they were used. With an eye for detail, she wrote eloquently about sidewalks, parks, retail design and self-organization. She promoted higher density in cities, short blocks, local economies and mixed uses. Jacobs helped derail the car-centred approach to urban planning in both New York and Toronto, invigorating neighborhood activism by helping stop the expansion of

expressways and roads. Jane Jacobs's "*Death and Life of Great American Cities*" advanced a set of urban design guidelines for maintaining the quality of life in cities.
She emphasized that healthy cities required fine-grained gridiron urban blocks, high densities, and a mix of residential and commercial uses. In her book, Jane Jacobs made an attack on modernist urban planning, which she saw as misanthropic. Instead she preferred functional diversity, where functions were not spread in different zones; urban spaces should be characterised by different shops and activities, which would give liveability to the neighbourhoods during all times of the day. She also preferred neighbourhoods with a high density, a mix of new and old houses and a structure with short and open streets. It was not the first time that modernism in the Western world was met by criticism, but it was undoubtedly the first time that such a well-formulated criticism had a resonance. Earlier critics did not have the same success, whereas Jacobs now in the 1960s saw a lot of support from citizens.

ARCHITECTS:



One of the prevalent views regarding urban livability is concerned with the esthetics and physical characteristics of buildings, streets, and development blocks. This approach has been widely used in architectural and urban design settings—where urban livability is perceived as a creative design process—to produce timeless physical models and themes that contain the economic and social functions of urbanity (Alexander, 1977; Bacon, 1967)
Also Alexander (1977) criticized how modernists separated city functions and removed the overlaps and interactions that were indispensable for creating community life.

Edmund Norwood Bacon: American architect, urban planner, educator, and author. During his tenure as the Executive Director of the Philadelphia City Planning Commission from 1949 to 1970, his visions shaped today's Philadelphia, the city in which he was born, to the extent that he is sometimes described as "The Father of Modern Philadelphia".

Christopher Wolfgang Alexander: Architect, design theorist, and currently emeritus professor at the University of California, Berkeley. His theories about the nature of human-centered design have had notable impacts across many fields beyond architecture, including urban design, software, sociology and other fields.

New urbanists called for a return to traditional built forms and urban space typologies to remedy the loss of human scale and sense of place characteristic of the modern city. These urbanists particularly focus on the building mass (i.e., heights, lines, and decorative details), streetscapes and plotting, mix of uses, and fine-grain urban blocks to build an image of a community and a spatially grounded civic culture. Creating pedestrian-friendly enclosures and neighborhoods where residents can conveniently walk from home to work, school, and parks is central to the vision of livable cities of new urbanists. (Calthorpe. P., 1994)
Smart growth, urban transect, and transit-oriented development, among many other design manifestos, have been proposed to enhance urban livability and create more sustainable cities (Bressi, 2002; Calthorpe and Fulton, 2001)

P. Calthorpe is an architect, urban designer, and planner. He combined his experience in each discipline to develop new approaches to urban revitalization, suburban growth, and regional planning.

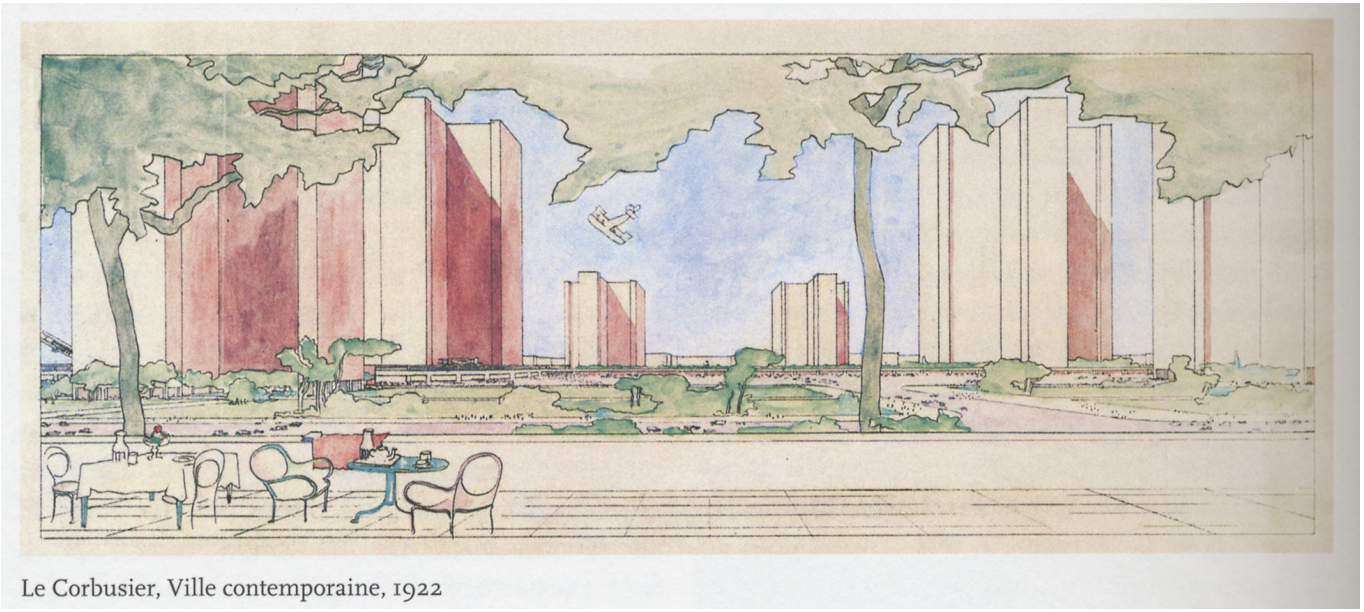
According to Lennard and Lennard (1995) it was needed to rediscover the principles of true urbanism, rebuild our cities so that they are ecologically sustainable, and regain communities that are healthy and socially sustainable.

Suzanne H. Crowhurst Lennard: Ph.D.(Architect) is Co-founder (1985) and Director of the International Making Cities Livable Conferences llc. Dr. Crowhurst Lennard's work concerns the social, cultural and psychological aspects of architecture, urban design and city-making, clarifying how the built environment affects social interaction, health and quality of everyday life. Her studies encompass making cities "livable" for children, youth and the elderly; relationship between physical health, social health and the built environment; walkability, bikeability and transit; small footprint mixed use urban fabric as essential for a livable city; the mixed use square as the "heart" of the city; the DNA of the city; city identity through regional architecture; balanced transportation planning to enhance health, social life and community.

Le Corbusier:
Le Corbusier, architect and planner brought Howard Ebenezer's ideas of the Garden City to a new level. Unlike Howard, he envisioned building up, not out. He argued, "*that the evil of the modern city was its density of development and that the remedy, perversely, was to increase that density. Corbusier's solution, whereby an*

all-powerful master-planner, would demolish the entire existing city and replace it by a city of high-rise towers in a park." (Hall 2014, p. 8). Le Corbusier's main ideas, which he outlined in Vers Une Architecture (Towards an Architecture), were about standards and perfection. He felt that the automobile was a machine whose appearance was not an end in itself, but a result of the engineer's goals – of motion, speed and comfort – combined with the exigencies of industrial production, creating a set of standard elements that with each refinement brought the car closer to perfection.

He wanted to apply this idea to architecture. Le Corbusier felt that "*all men have the same needs*," and that a house should be "a machine for living." Le Corbusier wanted to set standards for contemporary architecture, to find universal elements that could be combined to create structures for the use of all people.



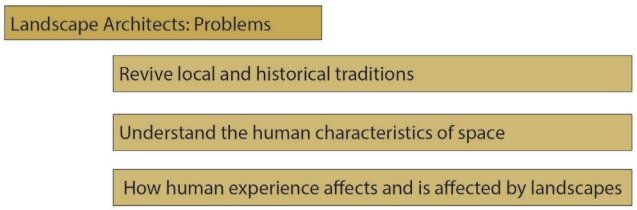
Le Corbusier, Ville contemporaine, 1922

Image 19. Ville contemporaine,1922
Source:(Doyoucity.Com, 2017)

The key to Le Corbusier's planning principles was to decongest the centres of the cities by increasing the density, while improving circulation and increase the amount of open space. La Ville Contemporaine, also known as "Towers in the Park" proposed highrise buildings each surrounded by green spaces and had wide avenues.

According to (Le Corbusier, 1929) the contemporary city was made to illustrate a clearly differentiated spatial structure to correspond to a segregated social structure.

LANDSCAPE ARCHITECTS:

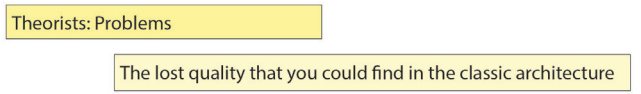


Landscape architects as Joan Iverson Nassauer argued that the individual building is frequently perceived as a fragment of a larger "whole," which is the urban fabric in its historical and physical dimensions. Some urban designers aim to revive local and historical traditions, understand the human characteristics of space, and accentuate the controversial temper of the public realm (Nassauer, 2012)

J.I. Nassauer is a professor of Landscape Architecture in the School of Natural Resources and Environment. She focuses on the cultural sustainability of ecological design in human-dominated landscapes. She develops design proposals to improve ecosystem services, and uses social science methods to learn how human experience affects and is affected by landscapes. Her research offers knowledge and strategies for basing ecological design on cultural insight, strong science, and creative engagement with policy.

Her teaching and recent projects apply this approach to brownfields, vacant property, exurban sprawl, and agricultural landscapes. Her research has influenced green infrastructure design, ecological restoration, urban and rural watershed management, transportation planning, and the development of metropolitan neighborhoods and brownfields.

THEORIST:



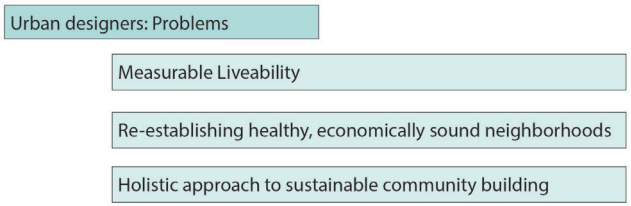
Theorists influenced liveability in an urban planning direction. Rob Krier, professor of architecture at Vienna University of Technology, and his brother architect Léon Krier are well-known representatives of New Urbanism and New Classical Architecture.

"*You have to learn from your own tradition, certainly not from the tradition from the last twenty-thirty years. I began my career only looking for an essay, a replacement for the lost quality that you could find in the classic architecture and I focused in urban design because the most dramatic situation in architecture in the 50s-60s was when you came through a destroyed city. The ma-*

jor problem of architectural design was not to design beautiful buildings, following some theories from known architects like Le Corbusier. I researched during many years how urban space could get lost in a modern town planning. Today, all around the world the city are being slowly destroyed because people are running away, quite simply."

Rob Krier

URBAN DESIGNERS:



Urban designers like in this case (Pal & Sanders,1997), argued that it is imperative that some means of measuring the effectiveness of revitalisation schemes is in place. By measuring livability, planners could focus attention on areas of weakness and bolster areas of strength, thereby enabling them to create better city centres.
The development of an evaluative tool is important for planners and others concerned about the effectiveness of downtown revitalisation efforts (Tyler, 1998). Indicators could demonstrate and measure the effectiveness of downtown revitalisation initiatives for public and private sector interests.

John Pal is a town planner by education and a retailer by profession. His academic teaching and publications reflects, and is built on, his first hand retail experience and interest in retail location. In August 2013 J. Pal attained Senior Fellow status of the Higher Education Academy and in the university made presentations on teaching and learning techniques at The Humanities Teaching Roadshow and on the Humanities New Academics Programme.

Others Urban planners like Victor Dover focused on re-establishing healthy, economically sound neighborhoods. For 25 years, urban designer Victor Dover, co-founder of Dover, Kohl & Partners Town Planning, has been designing plans for livable, walkable and sustainable communities in 22 states and across five continents and ranges from revitalizing historic downtowns to retrofitting suburbia. He also argued that the common thread is the holistic approach to sustainable community building, which includes the formation of complete settlements offering a mix of uses and dwelling types, an interconnected network of walkable streets, and building forms and architecture that reinforce the distinctiveness of the place.
Dover believed that design is the missing element in much of contemporary town planning, and his work centers on re-introducing form and design into master plans, policy and land development regulations.

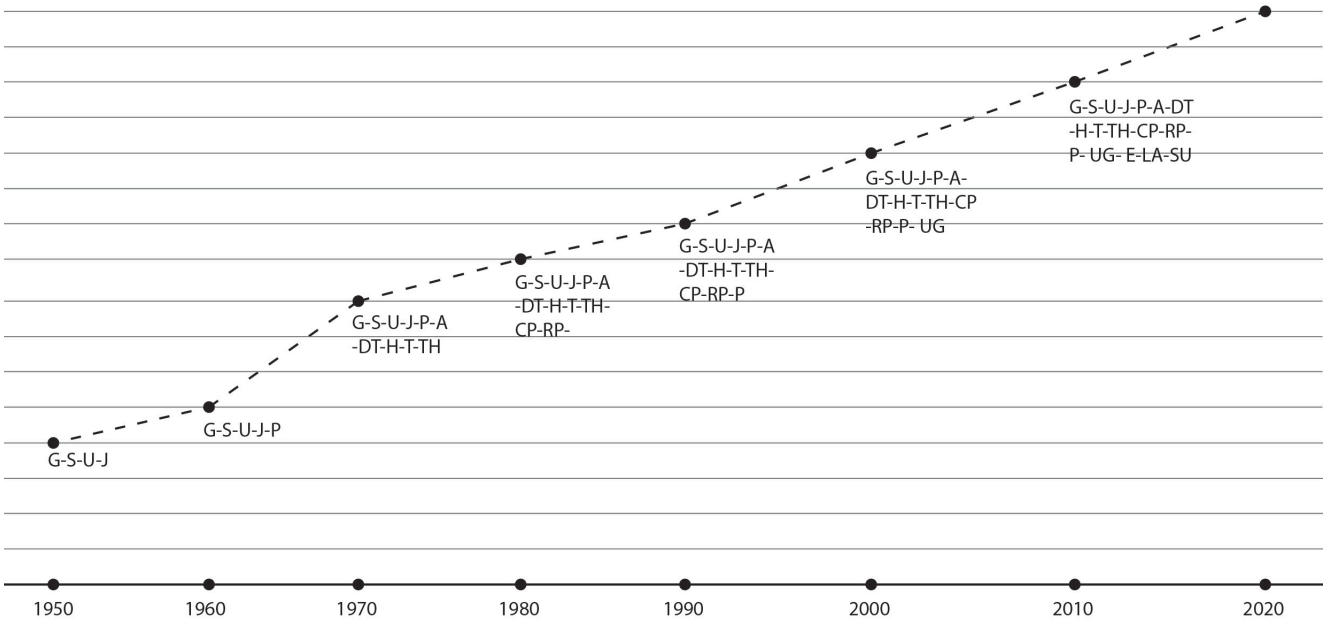
"*Streets are more than mere channels for transportation. Streets are the most crucial public spaces in any city, so street design is of supreme importance.*"

Victor Dover

The following table 20 sums up the problems concerning the different professions collected in the previous chapters:

ARCHITECTS	
	Aesthetics and physical characteristics of buildings, streets, and development blocks.
	Interactions for creating community life
	Loss of human scale and sense of place characteristic of the modern city
	Rediscover the principles of true urbanism
LANDSCAPE ARCHITECTS	
	Revive local and historical traditions
	Understand the human characteristics of space
	How human experience affects and is affected by landscapes
THEORISTS	
	The lost quality that you could find in the classic architecture
URBAN DESIGNERS	
	Measurable Liveability
	Re-establishing healthy, economically sound neighborhoods
	Holistic approach to sustainable community building
HISTORIANS	
	Utopianist urban planning
	Human engagement with civic life: citizenship
	Urban governance: Institutions & government
SOCIOLOGISTS	
	Standard conditions development of society
	Quality of life in any human living environment
GEOGRAPHERS	
	Living conditions in rural areas
	Urban reform political party
	Interactions individual & environment
ENGINEERS	
	Quantify inputs, outputs and storage of energy, water, nutrients, materials and wastes for an urban region
URBAN PLANNERS	
	How individuals perceive and navigate the urban landscape
	Viability in urban environment
	Vehicular traffic and external incompatible uses by mainstram planners
JOURNALISTS	
	How cities function
	Neighborhood activism

Table 20. Collected problems from occupations related to liveability. Source: (Granados & Kulasingam, 2017)



G: Geographers	A: Architect	LA: Landscape Architect	RP: Regional Planners
S: Sociologists	DT: Design Theorist	SC: Sculptors	H: Historians
U: Urban planner	UD: Urban Designers	TH: Theorists	P: Professors
J: journalist	T: Teachers	CP: City Planners	UG: Urban Geographers
P: Politics	C: Critics	E: Engineers	

Table 21. Source: (Granados & Kulasingam, 2017)

In the table 21 it is shown how the different professions have been added to the notion liveability since 1950 until today.

There is a clear tendency raising up since the 70's, where architects, design theorists and historians started to problematize liveability by adding their own perspective to the notion. If the tendency continues on basis of societal changes, more and more professions are going to be involved with the notion liveability in the future. Underlining the need for cross-disciplinary work.

6.4 RAMBØLL

In this chapter, Rambøll will be described in terms of its history, its philosophy, its multidisciplinary DNA and its working procedure. Finally there will be shed light on the newest group strategy winning together, which in relation to this thesis topic is relevant.

6.4.1 HISTORY

The Ramboll we know today is the direct continuation of the story the founders started together. Børge Johannes Rambøll and Johann Georg Hannemann founded "Rambøll & Hannemann" in 1945. They were colleagues at the Technical University of Denmark (DTU).
J. G. Hannemann was the highly talented engineer, who was able to dissect any structure within seconds. Hannemann was notorious for drawing on top of the employees' draughts with a fat, soft pencil whenever he explained or discussed something with them. To avoid having to redo the drawings every time he dropped by, the standard procedure became to cover the drawings with a piece of sketch paper when he walked in. On the other hand, B. J. Rambøll represented a strong humanistic and social visionary aspect, and was very aware of the company's role in the development of society.
("Consulting engineers, designers and management consultants - Ramboll Group", 2017.)

"*You needn't think we had such grand visions. We never imagined that we would be sitting in such a large circle as we are today. We almost didn't call it a firm, we just talked about how it might be fun to try to do a little design work on our own. While world history was evolving around us, a little local history of our company began to emerge*"

B. Johannes Rambøll about the initial ambitions in connection with Rambøll's 60 year anniversary.

Over the next 60 years, what started as a small partnership came to evolve into a large international company. The company grew to include engineering multi-disciplines. This small consultancy laid the ground for the Ramboll we know today. A highly principled company with a clear cut philosophy from day one. Ramboll and Hannemann had strong personal beliefs that led them to, in some cases, turning down business opportunities. Ahead of his time, B. J. Rambøll was visionary. In 1986, he wrote down his management principles in a 'Corporate Philosophy'.

"*The essence is that you have to behave properly and decently as a person and treat all others as you wish them to treat yourself. This relates to individual customers, colleagues and society as a whole. Being decent and proper does not only concern whether your tie is in place when doing business. It is about treating other people and society right in a long time perspective.*"

B.J. Rambøll has explained about the philosophy.

The Rambøll philosophy is stated in the following statement:

"*Your daily work constitutes an essential part of your life. There is no denying that satisfaction – or, if you prefer, a feeling of joy – is a goal of every human being. With this in mind, Ramboll's other goals must be seen as a way of achieving that single main goal – satisfied employees. All employees must work as independently as possible, have the freedom of expression that generates a wealth of ideas, and have all the skills they can reasonably exercise. At the same time they must support one another, professionally and personally. The Ramboll family must be imbued with a spirit of trust and confidence. The firm will always benefit – both internally and externally – if the artistic touch and an awareness of the human dimension are evident in all its activities, its products and its services.*" (ibid)

It is clear that Rambøll as a company strives for intelligent individual work, which in relation to projects will provide value.

6.4.2 MULTIDISCIPLINARITY IN RAMBØLL

Rambøll state themselves as multi disciplinary engineering company, working across nine markets:

- Buildings
- Transport
- Planning & Urban design
- Water
- Environment & health
- Energy,
- Oil & Gas
- Management Consulting
- Telecom

It is in Rambøll's spirit to bring a complete engineering to every project. The multidisciplinary approach will provide added value throughout the design process. Professions like architects, engineers, sociologists, etc. are spread out in the different departments in Rambøll, making them multidisciplinary as well.

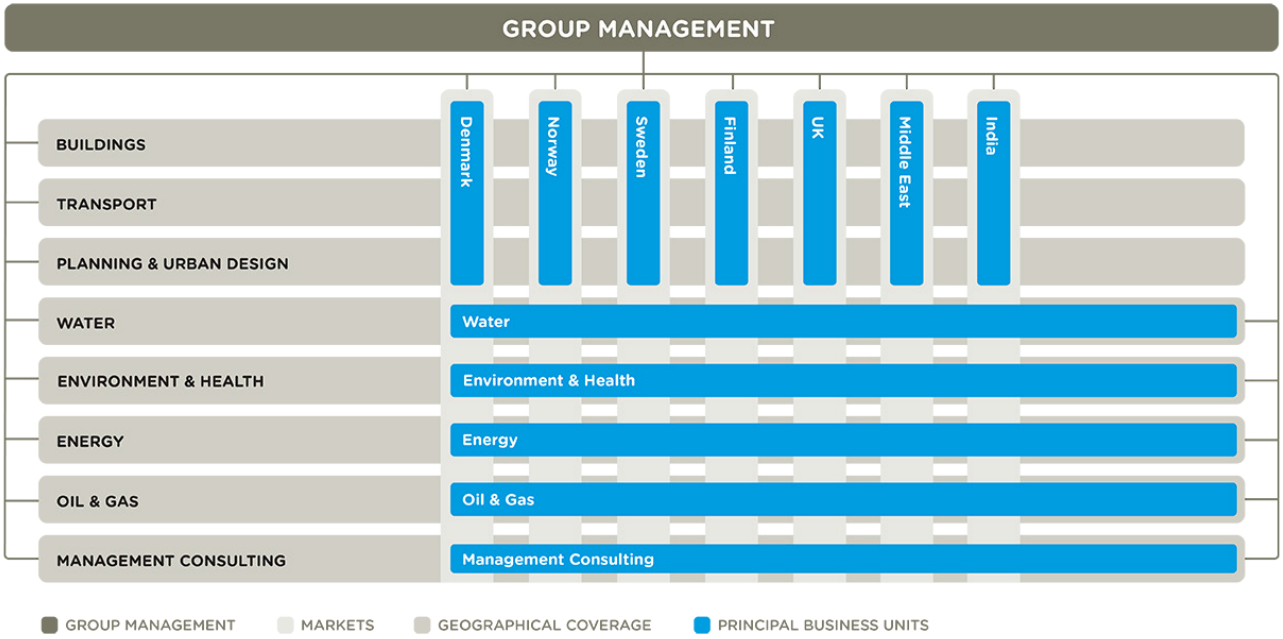


Image 22. Rambøll Markets
Source: (Ramboll Group, 2017)

Figure 22 shows how the different markets are distinguished between countries. Some markets as buildings, transport and planning & urban design are independently functioning in each country, while the others are vertical collaborations between countries.

6.4.3 RAMBØLL PHILOSOPHY

The work procedure in Rambøll seems to be project based. This assumption is based on an examination of their overall strategy, business plans and website where all tasks are categorized and circulated around projects with an attached project manager and director.

According to Eskerod (1996), project based organizations (PBO) are characterized as: the task of the firm is done in projects, several projects are performed simultaneously, responsibility is delegated to the project and authority lies with the project manager.
This is typical in the construction sector, which is also known as favorising project based work (Dainty et.al 2004)

There are advantages and disadvantages of being a project based organisation. One of the advantages is that PBOs by their form creates and recreates new organizational structures around the demands of each project. The PBO can be flexible to change and is effective in integrating different types of knowledge. (Hobday, 2000)

Still, PBOs are weak in coordinating processes, resources and capabilities across the organization as a whole. The difference between organizations that perform their task in projects and organizations that are seemingly permanent and perform a limited number of tasks in projects, is the location where knowledge is developed. Generally, knowledge is developed as work is performed. PBOs perform the firm's task in projects and knowledge related to the firm's task is developed in projects (Ekstedt, 1991).

This is also visualised in their work procedure for each project (figure 23). It is build on a skeleton of existing procedures, templates etc. "Rambøll's approach includes common project management language, governance and control mechanisms, IT infrastructure, and a stage gate model covering all project phases". (Rambøll)

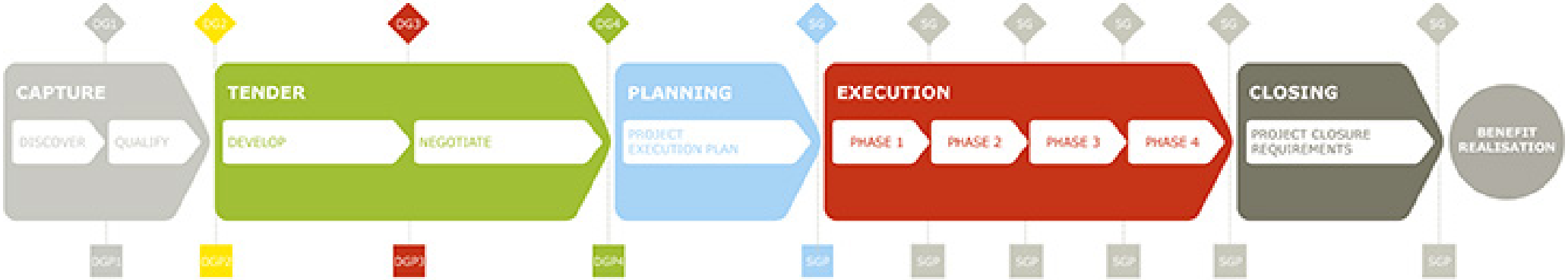


Figure 23. Source: (Ramboll Group, 2017)

Starting with knowledge formation in organizations, organizations attempt to grow and become more profitable in a competitive market. Most organizations in this situation need to organize their activities more efficiently and make fewer mistakes (Coase, 1988). Knowledge about the activities they perform is essential when organizing for effective knowledge production. Generally, knowledge about the activities carried out is developed as work is performed. This is also the case in PBOs (Ekstedt, 1991).

6.4.4 RAMBØLL STRATEGY

” *WINNING TOGETHER*”

(See full strategy report in Appendix n.2)

The newest group strategy Winning Together is a natural continuation of the previous group strategy Stronger Together, which in 2016 marked the final year. In January 2017 Ramboll launched its new four-year strategy called ‘Winning Together’.

“*We are launching a new strategy that will ensure we realise the potential we have built up over the last five years. We will achieve this by enhancing our client-centric culture, further strengthening our presence in the Nordics, UK and US as well as creating international growth through globally recognised Spearhead Services, especially in sustainable solutions. Our leading expertise in Spearhead Services will help us accelerate profitable growth in key markets such as Germany, the Middle East and Asia and help us to compete successfully even in those regions where we don’t have the benefit of a broad and strong presence.*”

Jens-Peter Saul. (Rambøll Group CEO)

The new strategy revolves around five strategic building blocks:
Become truly client-centric bringing the best of Ramboll, Further develop and grow their regional strongholds, grow internationally through spearhead services building on Rambøll platform, be a recognised leader for sustainable solutions and secure the future by accelerating digitalisation.
These five building blocks are supported by four key internal enablers: Collaboration, Performance, Culture, People and Leadership.

6.4.5 CLIENT CENTRISM

According to the strategy "*Winning Together*" it is argued that Rambøll´s clients are at the centre of everything they do and are the prerequisite for Ramboll's success. They claim that by prioritising them first, contributes to the best service and solutions, which is why being client-centric forms a central pillar of the new strategy.

But what exactly does it mean on a practical level to be client-centric for Ramboll as a company and as individuals?

The Group Executive Director Steve Washburn explained why it is so important for the organisation to truly understand client needs, nurture relationships, and collaborate to provide the full broadness of Rambøll's service offering.

"*Being client centric means focusing on how do we create values for the clients by better understanding their needs, their goals as an organization, so we can provide the very best service and bring the very best of Rambøll and therefore, broader opportunities for working together with them. By doing this, we will create a partnership between the client organization and between Rambøll as a firm.*

On projects we always try to do the very best we can for our clients, but being client centric as a firm means to go beyond that doing simply great job in projects, it means creating this partnerships between the client organization and Rambøll as a firm at different levels, and then nurturing those relationships even when we are not working with them on projects.

We become better at being client centric by first engaging with the client, asking questions and listening to the answers, so we better understand again what the goals and the concerns of that client are, so we can provide better service. We then, by listening to those answers from the client, understand how can we broaden what we do for them going beyond what we did with them in the past and, look for other ways we can help that clients.

Sometimes is even going beyond Rambøll as a firm to say, are the others entities helping that client and we can bring that client relationship? so we are providing advice to the client. There are plenty of examples across Rambøll. Novo Nordisk for example is a firm that we are expanding our working relationship with them overtime by focusing on what it is important to that client; patience and safety, so that become the most important thing for Rambøll as well when we are working with them on projects.

DONG energy is another example. A client where safety comes first, so when we are working with DONG, where we have been successful expanding that relationship, we recognize that we need safety first when we are working with them.

In our Winning together strategy, one of our goals is to start off with this client centric initiative this year and then it will be out for the next three or four years. It is a continuous process so we are going to be rolling out the strategy and start to implement it, but it is going to be a process that will take us through the Winning together strategy period."

Group Executive Director
Stephen T Washburn

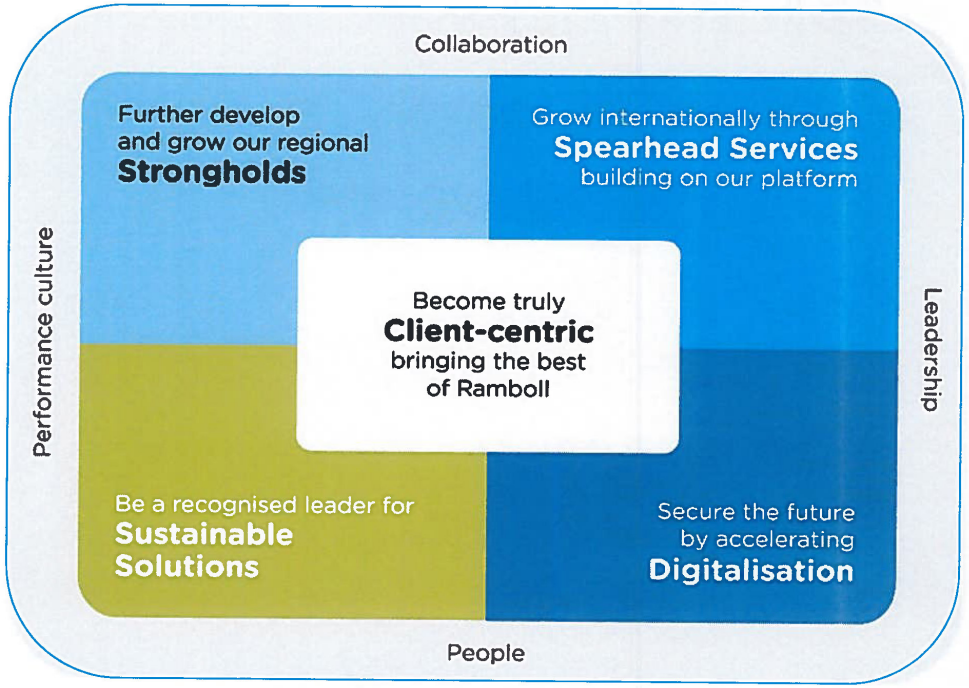


Image 24. Source: Rambøll Strategy report, 2017

7 THEORY

7 THEORY

7.1 CULTURES IN AN ORGANIZATION

Rambøll consists of different departments and it is assumed that these departments have their own mindsets, influenced by the working cultures. Edgar H. Schein (1996) defines a culture as a set of basic tacit assumptions about how the world is and need to be, where a group of people share, determine their perceptions, thoughts, feelings, and, to some degree, their apparent behavior.
A culture may therefore have a certain view on liveability, thus a categorising of where the different groups of employees belong to, will help to understand why people think as they do and if there any interrelations between management and department employees.

The way that cultures arise within organizations is based on their own histories and experiences. Starting with the founders, those members of an organization who have shared in its successful growth, have developed assumptions about the world and how to succeed in it, and have taught those assumptions to new members of the organization. (see quotes from Rambøll´s history 6.4.1)

It is also mentioned that culture manifests itself at three levels: the level of deep tacit assumptions that are the essence of the culture, the level of espoused values that often reflect what a group wishes ideally to be and the way it wants to present itself publicly, and the day-to-day behavior that represents a complex compromise among the espoused values, the deeper assumptions, and the immediate requirements of the situation. (Schein,1996)

Shared assumptions are typically form around the functional units of the organization, based on members' similar educational backgrounds or similar organizational experiences, what it often end up calling "stovepipes" or "silos." According to Schein (1996) we all know that getting cross-functional project teams to work well together is difficult because the members bring their functional cultures into the project and, as a consequence, have difficulty communicating with each other, reaching consensus, and implementing decisions effectively. The difficulty of communication across these boundaries arises not only from the fact that the functional groups have different goals, but also from the more fundamental issue that the very meaning of the words they use will differ. When they try to work together, they will often attribute disagreement to personalities and fail to notice the deeper, shared assumptions that color how each function thinks.(Ibid)

These hierarchically based cultures create the communication problems associated with "selling senior management on a new way of doing things," or "getting budget approval for a new piece of equipment," or "getting a personnel requisition through." As each cultural boundary is crossed, the proposal has to be put into the appropriate language for the next higher level and has to reflect the values and assumptions of that level, into a form that lower levels can understand, often resulting in "translations" that actually distort and sometimes even suppress what the higher levels wanted. (Schein,1996)

To create alignment among the different cultures, then, is not a case of deciding which one has the right viewpoint, but of creating enough mutual understanding among them to evolve solutions that will be understood and implemented. According to Schein(1996) too often in today's organizational world, either the operators assume that the executives and engineers don't understand, so they resist and covertly do things their own way, or executives and/or engineers assume that they need to control the operators more tightly and force them to follow policies and procedure manuals.
Therefore organizations may need to learn how to learn and particularly to learn from each other. That is why there is a need of a concept like liveability that could potentially bring together competences in a new collaborative arena.

7.2 MULTIDISCIPLINARITY

Rambøll stated itself as being a multidisciplinary organization. Multidisciplinary teams involve professionals educated in various specialties, who share information, knowledge and experiences, working together on an activity (Nonaka & Takeuchi, 1997; Toffler, 1994). Based on this definition Rambøll can be characterised as a multidisciplinary company with professions from subject areas such as human science, social science and natural science. Each of these disciplines represent unique attributes and functions expected from a working team when applied to an organization.

According to Tress (2005) Participants exchange knowledge and the research process progresses as parallel disciplinary efforts without integration, but usually with the aim to compare results.

Garner T. (1995) added that multidisciplinary teams includes the concept of a "gatekeeper" faculty member who determines which other disciplines are invited to participate in an independent, discipline-specific team that conducts separate assessment, planning, and provision of services with little coordination. This process involves independent decision-making rather than a coordination of information.

According to Garner T.(1995) interdisciplinary team process expands the multidisciplinary team process through collaborative communication rather than shared communication. Establishing collaborative team goals produces a collaborative service plan. In this model, team members are involved in problem-solving beyond the confines of their discipline. Tress(2005) argues that interdisciplinarity involves several unrelated academic dis-

ciplines of contrasting research paradigms in a way that forces them to cross subject boundaries, to create new knowledge and theories, and solve a common research goal.

According to Nonaka, I. & Takeuchi, H., (1986) leading companies show six characteristics in managing their new product development processes:
Built-in instability: Top management kicks off the development process by signaling a broad goal or a general strategic direction.
Self-organizing project teams: A team has a self-organizing capability when it accomplishes three conditions: autonomy (the team is free to set its own direction.), self-transcendence (The project teams begin to establish their own goals and keep on elevating them throughout the development process), and cross-fertilization (members with varying functional specializations, thought processes, and behavior patterns foster new ideas and concepts).
Overlapping development phases: Producing an unique dynamic or rhythm. Because the team starts from "zero information," makes each member to share knowledge and, as a result, the team begins to work as a unit. The individual and the whole become inseparable.
"Multilearning": Members of the project team acquire broad knowledge and diverse skills, which help them create a versatile team capable of solving an array of problems fast.
Subtle control: This kind of control is according to (Nonaka & Takeuchi, 1986) through: Selecting the right people for the project team while, creating an open work environment, encouraging engineers to go out into the field and listen to what customers have to say, establishing an evaluation and reward system based on group performance, managing the differences in rhythm throughout the development process, tolerating and anticipating mistakes and encouraging suppliers to become self organizing
Organizational transfer of learning: through "osmosis", which means assigning key individuals to subsequent projects. Knowledge is also transmitted in the organization by converting project activities to standard practice.

7.3 KNOWLEDGE

The exchange of knowledge between multiple disciplines can be hampered when shifting to cross-disciplinary teams.

Cook & Brown (1997) and Blackler (1995) distinguish between the noun "knowledge" and the gerund "knowing". 'Knowing' suggests a state, which implies that knower's is inseparably connected to it. Each moment is a compromise where participants employ their situated knowledge in a situation, which is itself developing. 'Knowing' is hence perceived as something that is mediated, situated, provisional, pragmatic and contested, accepting that 'truth' is mostly locally constructed, and consequently an object of constant negotiation and reconstruction. It is the actual act of apprehending or making sense and putting together from what one has, the significance of where one is.(Hansen, 2000 (unpublished))

According to (Hansen,2000 (unpublished)) there is a concern about 'knowing' as some sort of continues learning or sensemaking. Communities must eventually find ways to interpret its environments, events and settings. In this, the processes of sensemaking are likely to be important, and especially for firms that concentrate on the solution of unfamiliar problems.

Organizations partially build, like 'knowing' itself, on taking collective action on knowledge, which again presumes common assumptions eventually created by an organizational culture (Alvesson,2000). This suggests that defining organizational cultures or subcultures (mostly from out of symbolic interactionism (Alvesson,1995)) as meaning-systems based on interpretations of symbols, metaphors and myths, creates a very comprehensive and strong concept for understanding the dynamics of knowing and to some degree also the generative dance. This can explain why different notions around liveability like quality of life, interaction, confort, have different understandings and definitions from different occupations.

Studying the creation of knowledge in the organization, Nonaka and Takeuchi (1997) show two main types. The tacit is highly personal, rooted in the actions, experiences, emotions, beliefs and values of the individual. It can be divided into two dimensions: technical (skills, know-how) and cognitive (schemas, mental models, beliefs and rooted perceptions). To be shared, it´s necessary that individuals interact and communicate, changing, reinterpreting and creating new meanings, ideas and actions (Nonaka & Takeuchi, 1997).
Explicit knowledge can be articulated in verbal language, formalized in manuals or preserved in devices. It comprises the organizational memory, is easily accessed and transmitted, and is self- multiplying. The interaction between the two knowledges provides for the creation of organizational knowledge, as held by the processes: socialization (tacit in tacit); externalization (tacit in explicit), combination (explicit in explicit) and internalization (explicit in tacit) (Nonaka & Takeuchi, 1997).

7.4 A PRAGMATIC VIEW OF KNOWLEDGE AND BOUNDARIES

Knowledge boundaries emerge between communities of practise (engineers, architects, sociologist etc.), because of their different occupational cultures (Scheinn, 1996). The employees in these communities, share, determine their perceptions, thoughts, feelings, and, to some degree, their apparent behavior in relation to the overall culture and, as a result of the interaction, with colleagues in this community. Boundaries will be created between communites, because of the different pragmatic views on certain things. In relation to the conceptualisation, there is a need to bridge these barriers

of knowledge, as communites can adapt and transform knowledge to new knowledge. According to Carlile P.R. (2002) is necessary to understand the problematic nature of knowledge and the boundaries that result. Also how knowledge is structured differently across the four primary functions (sales/marketing, design engineering, manufacturing engineering, and production) that are dependent on each other in the creation and production of a high-volume product/ service, in this case around Liveability.

There are three Approaches to "Knowledge Boundaries" in product/ service development; Syntactic, Semantic, and Pragmatic.
Carlile, P.R.(2002) explains the first one, a syntactic approach, based on the existence of a shared and sufficient syntax at a given boundary. This sufficient syntax is efficient because differences and dependencies have been specified and agreed to in advance. In the case of our study we apply this approach to the word liveability.

The second ,a semantic approach, recognizes that even if a common syntax or language is present, interpretations are often different which make communication and collaboration difficult. These differences exist or emerge over time, so individuals have different interpretations of a word or an event. In this way, there are always differences in kind and the emergence of novelty on one or both sides of the boundary is a natural outcome in settings where innovation is required.
A semantic approach also recognizes that difference is not always adequately represented as "*differences in degree*" , but "*differences in kind.*" The problem then shifts from just processing information to learning about the sources that create these semantic differences that exist at a boundary.(Ibid) This second approach can be exemplified by the different perspectives or interpretations, the notion of liveability had, through history and context. For example, each of the different occupations (communities of practice) defined different subjects around the word liveability. i.e: Architects where focus on aesthetics and physical characteristics of buildings, streets, and development blocks. On the contrary Journalists, stressed how cities function and neighborhood activism can be established.

The third approach, a pragmatic approach, identifies that differences in knowledge are not always adequately specified as differences in degree or interpretation, but that knowledge is localized, embedded, and invested in practice. (Carlile, P.R., 2002)
Knowledge in new product/ service development is localized around particular problems faced in a given practice. To say localized does not mean that knowledge is limited to only one situation or location; rather, knowledge can be quite similar across practices if it is localized around a similar set of problems; knowledge is local in character, not global. (Ibid)
The many professions involved with the notion liveability justified this feature of knowledge "as localized" since each of the occupational communities defined a specific amount of problems around liveability. i.e. Urban designers argued for measure liveability, re-establish healthy, economical sound neighborhoods and the establishment of a holistic approach to sustainable community building.

Seeing knowledge as embedded in practice offers a contrast to the cognitive expression of tacit knowledge as something that is hard to retrieve from the mind that defines much of the literature. Embedded in for example the technologies, methods, and rules of thumb used by individuals in a given practice. This reflects in how Liveability has tried to be quantified by, for example, KPIs measuring systems, ranking indices, where liveability is measured using quantitative methods to evaluate, for example quality of life, happiness,etc.
The bottom line is that the more "distance" individuals have from each other's practice—their engagement in practice—the more difficult it is to communicate the embedded knowledge they use.(Ibid)
Third, knowledge is invested in practice—invested in the methods, ways of doing things, and successes that demonstrate the value of the knowledge developed.
Individuals are less able and willing to change their knowledge to accommodate the knowledge developed by another group that they are dependent on. Changing their knowledge means an individual will have to face the costs of altering what they do to develop new ways of dealing with the problems they face. Knowledge is one of the means by which individuals demonstrates their competency in solving problems to others inside and outside their practice.(Carlile, P.R., 2002)
For instance occupational communities in Rambøll, belonging to a modernist culture, may be more sceptic to replace their knowledge for a new one.

Because the pragmatic approach recognizes that differences in knowledge are not always adequately specified as differences in degree or interpretation, but that knowledge is localized, embedded, and invested in practice, it is highlighted the negative consequences that can arise given the differences and dependencies at a boundary. (Carlile, P.R., 2002)
This approach also makes emphasis on the importance of understanding the consequences that exist between things that are different and dependent on each other. For example knowledge is provided to make a particular effect (e.g., solve a particular problem), and because of that, individuals are committed to and invested in their knowledge as hard-won outcome. (i.e., project managers willing to be the first leading company implementing Liveability).

The cross-boundary challenge is not just that communication is hard, but that to resolve the negative consequences by the individuals from each function, they have to be willing to alter their own knowledge, but also be capable of influencing or transforming the knowledge used by the other function.(Carlile, P.R., 2002)

8 ANALYSIS

8 ANALYSIS
8.1 INTRODUCTION

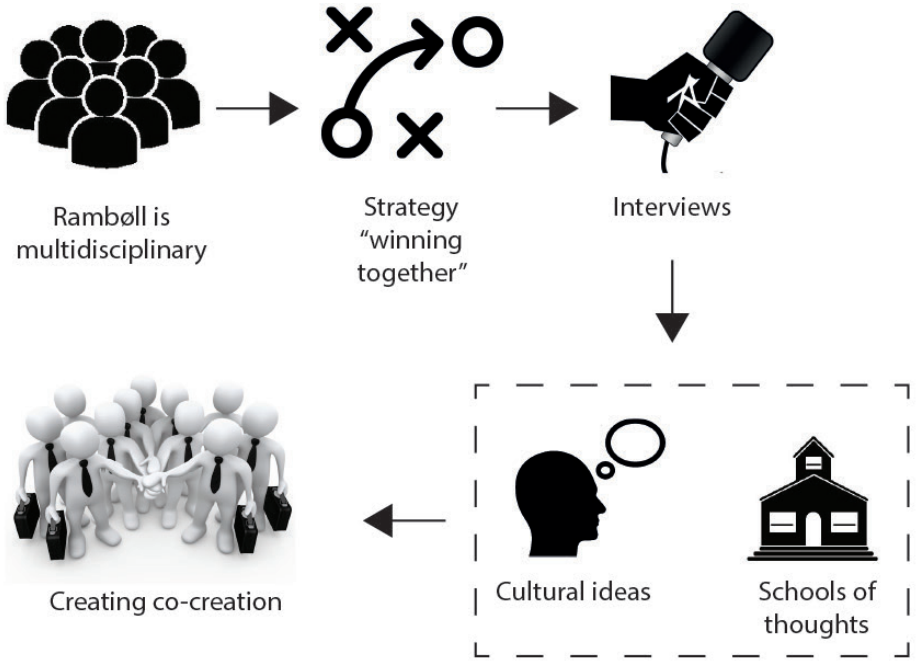
Having proposed and conducted optimal methodologies along a set of relevant theories to explain and understand various issues, phenomenas, etc. related with liveability, this chapter will move into the analytical part, where the groundwork for the concept will be performed.
A discussion of the relevant concept applicable in Rambøll is subsequently informed by the empirical information and data gathered through various interviews, meetings, studies and historiographical research performed throughout the project.

Towards the objective of creating a concept applicable in Rambøll, the different steps were followed:

The chronology of this chapter will be ordered as follows:

- **Liveability is multidisciplinary**
  Examination and analysis of literature pointing towards the need of collaborative approach to liveability.
  Liveability translated into the schools of thought
- **Liveability in Rambøll**
  Interviews will be analysed in order to localise tensions concerning the notion liveability and work procedures.

- **Relation to schools of thought**
  The problems which emerge from the inter views concerning liveability will be related to the identified schools of thought and the key characteristics of these. This will help provide an understanding of distribution of mindsets in the organisation.



8.2 LIVEABILITY IS MULTIDISCIPLINARY

The notion liveability was initially introduced as a being a measure with multiple definitions, dependent on the particular profession's perspective. Subsequently did the historiographical examination of liveability also visualised the various professions, who linearly have endorsed themselves as being part of the notion of liveability.
On the general level, it is evident to see that liveability invites multiple disciplines into working with liveability, through collaboration - this has been clarified broadly until now.

After an investigation of several liveability ranking indices, Kashef (2016) concludes that an interdisciplinary perspective of liveability across design, planning, landscape, and related engineering disciplines must be developed to address the complex, multifaceted issues that contribute to liveability.
Firstly, it is essential to say that liveability throughout history has been approached both quantitatively and qualitatively. Survey based on liveability indices as EIU, Mercer, Monocle have visualised liveability, through the quality of living in a nation of city, where the following areas are included.

- the sociopolitical environment (crime, safety, and stability)
- the economics (banking regulations and services)
- the sociocultural environment (media, censorship, and personal freedom)
- the health (private and public services, air quality, sanitation, and waste disposal)
- the education (private and public)

- the utilities (transportation, traffic, and services)
- the recreational facilities (restaurants, theaters, sports, and leisure)
- the market (availability of goods)
- the housing, and natural environment (climate, natural calamities, and weather extremes) (Mercer, 2017)

It is clear to see that liveability encompasses a large number of areas, which contributes to the well-being of humans. Within a company as Rambøll, where liveability is a wanted 'application' to projects, the large number of areas attract an involvement of various professions, who can contribute with their expertise.

Liveability has shown that it is about the "now" or "about to be." It also tends to be about the "here," with standards for livability varying not only from country to country, but from city to city. Livability seems more immediate and tangible, and thus more achievable (Ruth & Franklin, 2014). The fact that liveability is about the circumstances for people currently and in the nearest future, does somehow invite to an approach where different professions complement each other's expertise towards delivering an holistic result. Furthermore, does the variation of liveability, from area to area and city to city also point towards the need of understanding the particular settings, culture and people in this place. This is also something Rambøll has highlighted in their description of liveability (Liveable Cities Lab) "*We start from our global perspective but are most sensitive about the specifics and characteristics of the local situation. A local approach is crucial for Liveability*" But how is it optimally possible to examine liveability from a local approach, if there are so many parameters to encompass. And where is there a need for multiple disciplines to collaborate?

Firstly there's a need to understand what 'drives' the quality of life for people, because it doesn't necessarily depend on the above mentioned parameters in the society.

Dr. Daisy Das (2007) highlights that within quality of life both objective and subjective condition is important dimension of Quality of life. Her background in human science and social science reflects her approach to liveability and quality of life. . In her studies she distinguish life quality by exogenous forces, with respect to an individual or a social group, forces like production technology, infrastructure, relations with other groups or countries, institutions of the society, natural environment, and also by endogenous factors including interaction within the society and values of a person or a society.

From a Rambøll perspective, this will broaden the design spectre and automatically draw on people who knows something about relations, infrastructure, values of a person or a society. The first indications of other professions embracing liveability, than architects was back in the 1950's, where the dutch sociologist Groenman shared the same perspectives as Das, he argued that livability could be approached objectively and subjectively. For him, livability referred to the 'conditions which need to be met in order that people and society are able to develop themselves according to reasonable standards' (Groenman, 1959).

Sociologists and other professions from the human science/social science have an inherent understanding for people and their relations to society. Based on researched literature concerning urban planning etc. it seems essential to involve these areas' expertise in order to understand what people think and value. Anthropologist Martha Kaplan (2016) states that among the social sciences, anthropology has the best developed theory and method for investigating people's sentiments, motivations and values in real-life situations, across social domains and all kinds of societies. What do people value? What have they chosen, what would they choose?

The cultural setting and distribution relations to society could also be influenced by the particular demography in the local context. Geographer Pacione (2003) argues that there's a need to involve geographers by explaining s the social geographical approach to research into quality of life and urban environmental quality. He states that since both the social and environmental elements that define livability vary across space and through time, any effort to promote livability must be based on an understanding of underlying geographic and dynamic behaviors of society and its bio- physical environment, as well as their interactions.

One thing is to involve a lot of professions, who individually can contribute with their set of methods and knowledge, but the collaboration and creation of new knowledge across the profession is major hurdle.

In terms of making e.g. anthropologists and sociologist collaborate with architects and engineers in an organisation as Rambøll, matters the general approach to liveability in urban planning, buildings, parks roots in different mentalities. One profession may be more human centric and an another profession may focus on the physical elements - the task is now to make them see all aspects and how they complement each other.

An example of complementary work between professions is described in the work of Vine et. al (2012) '"The use of amenities in high density neighbourhoods by older urban Australian residents". The authors' background span from public health, health sociology, sociology and urban planning, which has been useful in their methodological approach. Briefly the study is about elderly people's misuse and neglect of their own neighbourhoods facilities, due to several issues, which the objectively conducted methods as GPS traction and indices did not show. Ethnographic interviews revealed the truth about these issues, which hampered the use of the various amenities in the area. The paper concludes that breadth of information gathered from the objective and subjective measures used in this study strengthens the case

for using both and thus acknowledging the importance of the subjective approach when investigating the objective environment.

Anthropologists and geographers as Kaplan and Pacione, contribute to liveability by their knowledge from their scientific field, they may see correlations between people and society, boundaries between certain facilities and culture and demography, which engineers, urban planners and architects may not see. But in contrary, the latter can contribute with something the first mentioned professions are not capable of delivering. The need for a holistic contribution is also reflected in Rambøll's own description of liveability in relation to urban planning. "*The three main objectives are the physical, like buildings or open space; the social, like how to live together; and the cultural sphere, which touches on the relationships to the surrounding and our roots. However, to achieve liveability we need good governance structures and holistic urban planning*" (Rambøll, 2017)

Figure 26. Liveability in Rambøll Source:Rambøll

8.3 LIVEABILITY IN RELATION TO THE SCHOOLS OF THOUGHT

The description of the different schools of thought in the previous chapter provided a broad picture of the different mentalities, which were prevalent in literature, architecture, art, politics etc. Ideas and principles about how people saw the world will be translated into the context of liveability, to determine how liveability would be explained through modernism, postmodernism and functionalism. This will be helpful in terms of identifying how people think in the subsequent chapter.

CHARACTERISTICS OF MODERNISM IN RELATION TO LIVEABILITY

Modernism as a mode of thinking is defined as self-consciousness or self-reference, that run across all the novelties in the arts and the disciplines. In relation to liveability, it can be explained as an individualistic way of thinking where the implications on the end user and interactive community are not really involved. The fundamental problem with modernist urban planning was that it was used to 'put people in their place' without paying much attention to what people were doing and what they wanted. The embracement of humans in understanding their interrelation to each the environment, other people and amenities were not on stake. Thereby this mentality also ignored certain approaches to liveability, mainly the ones emerging from human science and social science, who could shed a light on human needs like interaction, integration and interrelation with society.

Le Corbusier's modernistic approach to urban planning and architecture further underpins the neglection of humans in the planning and designing by his statement that "buildings should function as machines for living in". Houses were build to the one purpose of housing people, who needed quick accommodation. This seemed like a standardised procedure, driven by a positivist/objective approach to people, because there was no time and effort in studying all aspects of liveability as for instance demographics, cultural values or subjective conditions of the people, but only objective conditions as Das (2007) also mentions. Liveability was measured by objective conditions, if there were sufficient facilities and a high level of health, then people's quality of life were high.

A society build up by 'machines' only serving their purpose and nothing else seemed ideal, in this school of thought.

A modernist would perceive liveability as a 'label'/certification in this context more than an implicit design feature. To be elaborate if only wealth/money/GDP and other objective conditions contribute to the notion of liveability, it would easy to see liveability in accordance with e.g. DGNB ("Green Building Council") or other certification systems, where fulfillment of certain requirements will provide a certificate.
Lastly, having a modernist approach may cause knowledge boundaries in collaborations with other disciplines in for example workshops in an overall co creative team. The objectives are different and this may cause boundaries when approaching the full scope of liveability, which consider both subjective and objective condition of humans.

CHARACTERISTICS OF POSTMODERNISM IN RELATION TO LIVEABILITY

While having a positivist approach to the social world in modernism, interpretivism seems to be the approach to the social world in postmodernism. Interpretivists reject that it is possible to understand behaviour by observation only. Social worlds cannot be predicted nor hypothesised. This fact underpins the questions

which circulates in postmodernism of how we perceive and how we describe what the world is. Individual humans or in this context professions perceive the social world differently contributing to a more holistic view of humans and their relations to society, other human etc. The interpretative approach releases unpredictable answers, but also outlines a more clear picture of how people think and behave in a certain context.

Postmodernist liveability has moved away from the machinery and predetermined thinking to focusing on the "*now and to be*". People's values, association to society and cultural relations are interesting in relation to architecture and urban planning. This is also reflected in the architecture and urban planning, where liveability has become more social and human centred as Jan Gehl states:

" *If it was not for the people there would be no cities, the human being is essential for city planning – city planning has to have people as the starting point. The people-centred liveability approach is humanistic and social city planning where people that use the urban space in their daily routine are in focus.*" (Gehl 2010)

The notion about 'melting' people together with cities, creates the need to establish a forum, where professions who have humans as expertise have to talk with professionals who have design and planning as expertise. The fields of Urban planning and architecture, which has been primarily dominated by one or two professions, is now a field containing the need of many professions.

A postmodernist would perceive liveability as a product/ result of many professions thoughts and approaches.
In an organization like Rambøll, a postmodernist approach would be key for a better collaboration with other disciplines in order to satisfy the requirements of a project from many perspectives.

CHARACTERISTICS OF FUNCTIONALISM IN RELATION TO LIVEABILITY

In relation to liveability, functionalism focuses on the macro-level of social structure; how to improve occupants' living conditions. There is a focus on people's' well being and quality of life, but it is still on a level, where it only concerns a nation or a civilisation as one measure.

The goal of social functionalism was to create architectural designs that responded to housing problems and their attendant social problems. For example introducing designed elements as internal courtyards, light shafts that brought external light and ventilation to common stairwells. Lloyd's principle of 'form follows function' is strictly followed and liveability seems to be a design parameter in this case.
Even though there are traces of human oriented design, the need to go into certain places and conduct e.g. anthropological or sociological studies seems irrelevant, when macro level is the approach. There's only a focusing on the functional requirements, or needs, of a social system that must be met if the system is to survive and on the corresponding structures that meet these needs. The ideas of functionalism attempts to explore people, but still on a level where the already occupied professions as architects, engineers and urban planners can provide solutions. Making it tangible is key, if people e.g need nature in the city it is solved by planting trees or creating a courtyard or park as mentioned. A functionalist would therefore perceive liveability as a design feature rather than something which is created on basis of collaboration between several professions.

8.4 LIVEABILITY IN RAMBØLL

Having the examination of how liveability is seen through the different schools of thought, provided a more clearer picture of how the main principles were expressed in liveability.
This makes basis for the possible relations to the ideas that the professions in Rambøll may share about liveability. Are people thinking in modernist, postmodernist or functionalistic ways?
This relation exercise will also identify where and why there are tensions in the organisation concerning liveability and if it correlates with other parameters.

Image 27 mapps the conducted interviews (marked with a green check mark) and their connections to the above laying managers.

The interviewees labeled with an id in order to keep them them anonymous.

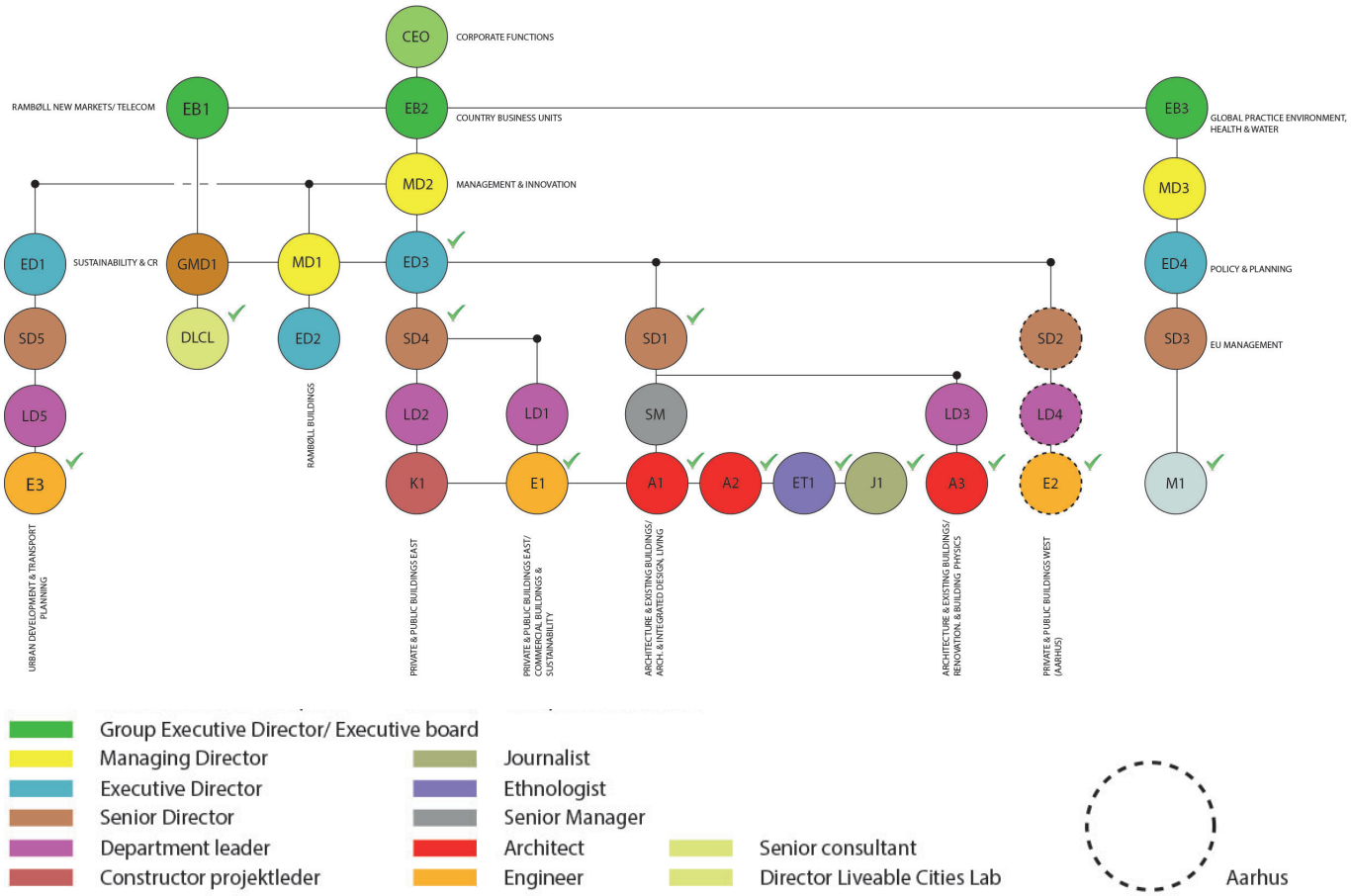


Image 27. Organizational Chart at Rambøll
Source: (Granados & Kulasingam, 2017)

The interviews have been analyzed identifying problems, definitions and suggestions approaching liveability. The overall structured has been thematized as the following:

- **LIVEABILITY**
  The general conception of the notion
- **WORK PROCEDURES**
  The approach to liveability and existing working procedures
- **CULTURE**
  Differences in mentalities between departments or organisational levels
- **BUDGET**
  The role of money and budgets within projects.

Note: The interviews have shown that 'culture' and 'budget' are often mentioned in correlation with 'liveability' and 'work procedures', as a result they will not be analysed separately.

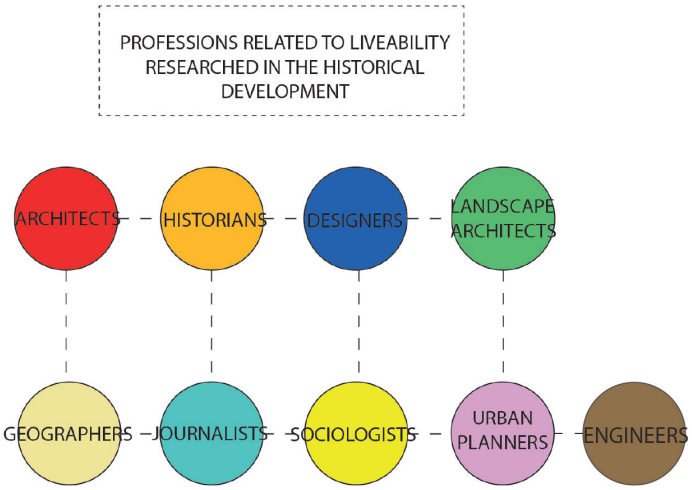


Figure 28 shows the detected profession from the historiographic analysis and the related professions founded in Rambøll. This approach will guide us to interview the disciplines that through time have been relevant with the term and identify the problems they point out now.

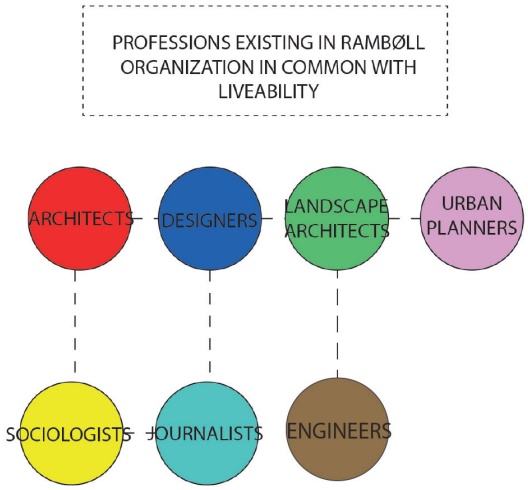


Figure 28. Source: (Granados & Kulasingam, 2017)

ARCHITECTS	-A1-A2-A3-
LANDSCAPE ARCHITECTS	-DLCL-
URBAN PLANNERS	-E3-
JOURNALISTS	-J1-
ENGINEERS	-SD4-E1-E2-
BUSINESS MANAGEMENT	ED3-M1-SD1
ETHNOGRAPHERS	-ET1-

Image 29. Source: (Granados & Kulasingam, 2017)
Here it is shown how the different interviewees have been sorted by professions and labeled with an id.

The ideas, which the interviewees have shared in relation to different themes, will in this paragraph be analysed to explain, where and how these ideas are related to the different schools of thought.

ARCHITECTS

ARCHITECTS	-A1-A2-A3-

INTERVIEW 1: A1

A1 is an architect from the department of architecture and existing buildings.

LIVEABILITY

Interviewer: What is liveabililty for you ?

A1: "*For me it's an approach to designing. I think of it as a way of approaching my tasks or projects - in a sense that, if I have a given problem, like for instance with a tunnel - how does it improve the larger context ? So, always thinking your problem within in a larger context of what it will give to the city or to the end user. [...] For me liveability is a mindset.*"

Interviewer: What kind of problems you have when dealing with liveability?

A1: "*It is really hard to quantify, because it is really hard to communicate to the client, in terms of what you get out of it. It would be wonderful if you had a tool , when you assess a project from a client, showing what you should do and what to look into - that will maybe give you more or save some money. As a part of Rambøll, we have all the opportunities, but it is not easy to involve other departments, without having a certainty of the budget. [...] I think in that sense (having a department of mixed professions) that's the only thing the management of Rambøll can do is breaking down the silos (part of the new strategy). With the aim of making easier to collaborate, to make it casual to collaborate.*"

WORK PROCESS

Interviewer: Do you consider yourself as a facilitator ?

A1: Yes, more like a bridge. I think that most architects could say that, because I don't know any architects, who don't design with the end user in mind. [...] *So it's not design for design in itself, but design for users.*

ANALYSIS

The main focus of A1 is the end-user and how to approach clients with liveability.
Livability is not seen as a product, but as an approach in designing buildings, urban planning etc. Projects need to be thought in a larger context, looking at relations with other factors as for instance infrastructure, transportation, recreational facilities etc, but primarily with a focus on the end-user. A1 states that liveability is a mindset, every profession who contributes to a project, deliver a piece of knowledge from their background and expertise to make a project complete. It can be argued that what is meant is that liveability is a product of several approaches - it is a measure, which depends on how the different profession approach the particular project. A1 seems to share the ideas of postmodernism, where the view on particular things is not defined by a singularity, but opened for multiple views. In relation to the ideas of post modernist architecture and urban planning, A1 does also share the idea of more user involvement to capture people's perspectives and by placing yourself in their shoes.

Collaboration across professions is fundamental for liveability, A1 points that this is a struggle within an organisation where the silos 'isolate' people from each other. The opportunities are there, but it may be hampered by the budget, which dictates the way projects are done in Rambøll, which in regards to time and efficient exploitation of resources. A1 questions if this mentality suits with the notion of liveability.

INTERVIEW 2: A2

A2 is an architect with an expertise in social sustainability from the department of architecture and existing buildings department.

LIVEABILITY

Interviewer: What is liveability for you?

"*There are different levels of liveability, a liveable place is a place where humans can belong to the place, influence it, live in the place the way they want to live"*
Liveable for me, means 'feel at home' - we can identify ourselves with it, respect it and it reflects us.
Liveability is both a process and a product.
It is the product, it has to be a place that generates liveability (that's the product) - then how do you it ? - this is the process. You can do it by user involvement, by analysing the local qualities of the area, asking people instead of observing them or by collaboration of different stakeholders - there are different ways.

(...) User are really important, but you also have to pay attention to climate, geography etc - it is also site specific, people react to to these things.

(...) I think that Jane Jacobs is an important stone in the history of the liveability as well as Jan Gehl. Somehow I refer to her, but liveability has grown since her discussions."

WORK PROCESS

Interviewer: Which kinds of problems do you see in Rambøll in relation to working with liveability ?

A2: "*My department is good at working with social aspects, it is because we work with different professions and because of the culture from Witraz, where user involvement was prioritised. I hope it stays like that and don't loose this culture.*
(...) I think it is a bit tricky to talk with engineers about liveability. Until now they have been focused on the environmental aspects and now of a sudden they want to put the social aspects in, without knowing what it is.

(...) I believe in collaboration, co-creation and so on. This is not only connected to the topic of liveability, but to every project. (...) Currently I'm working with a project, which is similar to some projects in in management and I asked if we could have a chat or share thoughts, but concern of where to put the hours, became a hurdle."

ANALYSIS

A2 perceives liveability both as a process and as a product. Liveability should function in favor for humans in the end, it should enhance their lives. Somehow A2 shares ideas of both post modernism and functionalism, but not strictly attached to the principle ''form follow function''due to the emphasis on subjective values, which A2 underlines as the essence of liveability. A2 also points to be influenced by the ideas of Jane Jacobs.
Liveability should be a reflection of us/humans - therefore A2 also points towards user involvement but with a keen eye on other factors (geography,climate etc) as well, because everything is interrelated. The involvement of expertises, who can perform such studies are therefore essential. A2 is in favor of collaboration/ co-creation.

Particularly in A2's department, the culture prioritises networking and cross-disciplinarity, which stems from the old company's culture* . It is evident that this certain mentality has influenced the employees.

* Witraz Architects was bought by the Rambøll Group in 2013

As a continuation of the talk about culture, A2 mentions that working with engineers is tricky, their perception of for instance social liveability is really broad resulting in a

devaluation of it.
There is a struggle between cultures in Rambøll concerning liveability.
Finally A2 points towards the difficulty of 'mingling' and networking informally due to the requirement of accounting the hours spent. Informal talks or network meetings with fellow colleagues, do not seem to be a blank in the accounting system

INTERVIEW 3: A3

A3 is an architect from the architecture and existing buildings department and have been working in a range of projects trying to identify and sell liveability to the clients.

LIVEABILITY

Interviewer: What is liveability for you?

A3: "*I see liveability as a cell, a combination of elements, where you have to have the right combination to make it work. So, when you look at where you want to place your bicycle lanes, should we do it after the old fashioned modernistic approach? It doesn't work!*
Liveability is great, but if people doesn't believe in it and feel it is not going anywhere.
"... That to me is part of liveability because you're bringing in all these different people to come up with a real holistic design. Because we are looking at it culturally and the physicalities, which differs from location to location.
(...) The biggest challenge for me is how you make liveability profitable, because if you make it profitable, you don't have a problem solving it"

Interviewer: How do you approach liveabiliity/quality of life ?

A3: (...) " *I believe there is a lot of different ways to measure for instance quality of life and what quality of life is. Certain things are more important than others. If we can break it down to something measureable/ quantifiable, i think that's the best way to talk to people about it.*"

WORK PROCESS

Interviewer: How do you see liveability in Rambøll?

A3: "*Rambøll is a profit company so the idea is, how do we make liveability profitable venture for everyone. If people really want liveability if they feel that it has value and they are willing to pay that, because it has a nice outcome. Then, it not only justifies the ideas of liveability, but also creates value - then you can sell that value.* "
Interviewer: Where do you see struggles in Rambøll in terms of bringing people together to collaborate more?

A3: "*Rambøll's setup is silo based, everyone is 'budgeted'. I'm in favor of sector based structure, where you pull out the relevant people from each silo.*

(...) I'm trying to make the contracts set up for liveability.

(...) I'm doing projects for urban planning, transportation etc. so I have to silo everyone by hours because of budget."

ANALYSIS

A3 shares ideas of both postmodernism and functionalism. The notion of that liveability is a cell, where you have to have the right combination to make it work. This perspective reflects the post modernistic principle of denying any overarching story to the world. To be elaborate the "story" of liveability changes from place to place. It works when you have the right combination of people, there is no static recipe for right combination.
Though, there are indications that A3 perceive or want to make liveability more tangible and quantifiable, when approaching clients because it will ease the understanding between the parties. Thus, it rises the question of if liveability should be approached differently, when working and when 'selling' to the clients resulting in a conflicting idea of if liveability is a product formed to provide a function or a inherent design feature. Having a list that shows how quality of life is measured and how it will provide value, defines more likely liveability as a product.
This statement also sums up the difficulty in the organisation to define liveability, if it should be quantified and perceived as something they deliver for an x sum of money or considered as a general approach to every project.

In terms of issues in relation to the existing working procedures and culture in Rambøll, A3 points towards the need for sector based structure in the organisation. Project budget seems to be having a steering influence, it determines the number of people who can be involved and the amount of hours that can be spent. This may limit the effort in more collaborative work formations - a disadvantage in terms of liveability.

BUSINESS MANAGEMENT

BUSINESS MANAGEMENT	ED3-M1-SD1

INTERVIEW 4: ED3

ED3 has a technical background and possesses the role as an executive director in Rambøll.

WORK PROCESS

Interviewer: What are the issues you see in the cross disciplinary collaboration?
Working together as a team and as a <company, to bring out our best knowledge, that's our advantage in beating our competitors. But isn't that working? And why are talking about collaboration in Rambøll? I think it is because we are lacking in this part or at least we realise

how important it is to bring all of our competences to clients. If we want to win the market and beat the best in the market. The biggest strength we must have is to bring our forces of knowledge to our clients faster, easier than others. [...]

(...)The only thing you compete in now is the price - it is one man against the other. So, by delivering more qualifications and more knowledge to same price, then we have more interests to our client.

(...) In my point of view, I can't force people to collaborate. I want them to analyse what the clients are asking for and then collaborate on behalf of these needs.
(...) If there is a business case for us to work together (collaborate) is to beat others to get better with the clients. You have to have some pro's advocating the advantage of bringing people together to provide the services to the client.

LIVEABILITY

Interviewer: What is liveability for you?

ED3: *Liveability is such a small word in the strategy. If you go up and ask about what you going to do with liveability ? They don't know.*
I don't know either. If there is a market for it, we want to be front leader of the market but I expect that it is the head of the department who see the potential and will ask to invest more money in working liveable.
In the other company, we won the projects when we brought people from different competences (architects, arts people, anthropologists, etc.)
If a head of department develop some cases where livability is applied and it works then it will be presented further. [...] If it can't be a business case then drop it but I think it can be.

ANALYSIS

It is evident to see that ED3's business minded role in Rambøll shapes the conception of liveability. ED3 shares the ideas of both modernism and postmodernism, on one hand liveability is perceived as a 'hard' product, something that has to generate profit in order to be incorporated in the in strategy or work procedures. On the other hand ED3 is also acknowledging that there is a lack of collaboration in Rambøll and pointing at the importance of bringing professions together in delivering a holistic result to client, who ED3 highlights as the center of all projects. If a 'liveability' approach to all projects is the solution to be more collaborative, this has to come from the head of departments, who defines how the strategy will be performed in their individual department. The question is though, if liveability is already prevailing as an ambiguous notion in Rambøll, then nobody will able to use liveability as an approach to solve some strategic targets.

Though, the general conception of ED3 is that if there is a business case, then it is worth making an effort in. Competing with the best price for the clients is somehow prioritised more than what the price is containing and how you end up with a price with most value. The '*product*' and '*money*' oriented mentality also reflects ED3's position, where the aim is to make profit, because they are measured by this. Liveability is something, which should be sold to the clients. ED3 does not neglect the fact that liveability is about collaboration, but the knowledge of the notion itself and its qualities are not clear and seem to distant.

INTERVIEW 5: SD1

SD1 has a economical background and possesses the role as senior director in Rambøll.

WORK PROCESS

Interviewer: Which barriers exist in Rambøll, when you attempt to implement a concept of a strategy ?

SD1: *Silotankegangen præger billedet, at medarbejderne og afdelingerne har nogle individuelle mål. Det faciliterer ikke tværfaglig samarbejde, hvilket er en af tingene. Det andet er almen forståelse for et begreb eller en term, fordi der ikke er tid til at sætte sig ind i det.*
Og så er liveability noget fluffy, der gør det udefinerbart. Man skal ind og arbejde med opfattelse af nogle bestemte ting, folk har forskellige opfattelser som bunder i erfaringer, uddannelsesmæssige baggrund osv.

Interviewer: What could help a concept of liveability ?

Michael: *Det er viden og samarbejde i projekter, det er det som faciliterer liveability. Jeg ser det som en induktion, det er noget som kommer af en holdning og tanke - en grundviden. Det skal ikke være sådan at en kunde kommer og efterspørger for 4000 kr. liveability - det skal være en del af den grundlæggende ydelse. Men vi kan ikke yde ydelsen, hvis vi ikke har en intern forståelse og kompetence til at gøre det.*

LIVEABILITY

Interview: What is liveability for you ?

SD1: (...) *Jeg køber ikke den med at det en fysisk disciplin, refererende til noget med boliger. Det handler om mennesker. Det er et tryghedsbegreb. Når København, Wien eller Melbourne vælges som verdens mest liveable byer, så er det fordi menneskene er trygge. Begrebet tryghed flytter sig også hele tiden.*

Liveability er ikke en kasse for sig selv. Det er en disciplin der opstår, når noget arbejder sammen. Så det er svært

hvilken afdelingen der hører til liveability.
[...] Jeg kender meget til resultaterne af god arkitektur, hvor man får integreret ydelserne og at det giver liveability. Jeg forstår hvor vigtigt det er og hvordan man kan skabe noget af det.
Man kan spørger sig selv om liveability er resultat af noget eller om det noget man fra definerer liveability og skaber det.

Interviewer: Liveability skal det komme fra kunden eller også fra medarbejderne? Er det et krav til projekter ?

SD1: *Der er liveability i alle projekter. Det er bare et spørgsmål om hvor meget eller for lidt. I det øjeblik du sætter et vindue i en bolig, så er der noget med liveability, fordi der er lys. Det er det samme som at spørge vi skal levere god rådgivning, eller leverer vi god rådgivning? Fordi liveability er bare et element i god rådgivning. Vi skal gøre vores bedste i at levere den bedste rådgivning.*

ANALYSIS

SD1 shares the ideas of postmodernism, by looking at liveability as a product of several professions's knowledge and expertise. The relation is especially clear with the denial of liveability as a physical discipline, something which has to be quantified and 'productised' . Liveability is not a function or a product that you deliver to the client, but something which exist in every project and as SD1 mentions it is only a questions of how much it is.
Though SD1 points towards the barriers as the silo based mentality and the individual goals each department has - this does not promote cross-disciplinary work. Additionally there's an importance in knowing what the notion is about, sometimes this is neglected when the promising strategies are rolled out. SD1 advocates the need to be more inductive, when approaching liveability, but addresses the emerge of problems if the internal conception of liveability is diffuse and ambiguous.

INTERVIEW 6: M1

M1 is an economist from the management department.

WORK PROCESS

Interviewer: Have you seen any tensions across departments in reference to liveability?

M1: " *Not necessarily directly under the label of liveability but the conflict and interests in the technical expertise from each discipline does not always allow to enclosure others in the projects. In Rambøll you will find many projects where anthropologists are involved and their works are undervalued or sort of down prioritized*."

"... The challenges, in order to create a holistic approach to have many people involved in the design phase, anthropologists, economists, sociologists, landscape architects, architects, building engineers, and that is very hard for the client to be willing to pay for. It is seen as a problem because it is not seen as a value that you bring others disciplines into the project ."

LIVEABILITY

Interviewer: How do you see liveability ?

M1: " *In our definition Liveability is a process. It Is not the same term in Saudi Arabia or in Copenhagen. What you would design in a context would be different in another one. What we look at in management consultant is not the physical aspect, we are very focused in the culture aspects, social structures and the governance. Does the city government allows for co creation for making sure that all the stakeholders are heard? Are their needs for development met? "*

"...Liveability is extremely discussable. For me it is an approach not an end state, a way to doing things, very close to co creation and stakeholders involvement."

ANALYSIS

M1 shares the ideas of postmodernism and relate by conceiving liveability as an approach to projects. Terms as co-creation and stakeholder involvement are broad reflecting the need to involve different professions, who individually can contribute with expertise in order to meet the necessities of the end user.
M1 is also placed in an department where the majority of the employees' background has roots in human science or social science, which in this department creates a certain mentality or culture on the way to look at for instance liveability. The difficulty in having many mentalities that may conflict is also seen in the remark M1 makes about the down prioritising of anthropologists.

M1 does also points towards the issues of project budget, because it is difficult to convince clients about the advantages of working '*liveable*' will provide benefits in the end. The ignorance of the outcome hampers this approach. So, there is also a matter of how clients should be convinced about the extra value, liveability will provide.

LANDSCAPE ARCHITECTS

LANDSCAPE ARCHITECTS	-DLCL-

INTERVIEW 7: DLCL

DLCL is an landscape architect from the sustainability department & CR in Rambøll with interests in social repercussions and landscape architecture.

WORK PROCESS

Interviewer : Do you see any issues when working in a multi disciplinary team?

DLCL: " *Rambøll is of course an engineer company and*

engineers also used to put things on measure and boxes to count on it. That is important for engineers, but when it comes to psychology or mental wellness which are soft factors in quality of life, these are difficult to measure. It is in a permanent transformation, making it individual from place to place. ... I know exactly what you mean and that is exactly what happen in all engineer companies, it is a natural problem.

(...)This Silo mentality we have in the society and we also have in the Rambøll group. Most of the leaders are also aware of that and we are trying to overcome the silos. It is a long way to go. I think the Rambøll philosophy and values, underpins the overall aim of being stronger together and now expressed in strategy of winning together. It means that separating is not a good thing - coming together and overlapping of disciplines.

Interviewer: How do you get out from the silo mentality?

DLCL: "*We do a lot of workshops and talks and I have to say I learned a lot in my own projects before I joined Rambøll. I was very much aware that I would only have success on project if I get out of the silos.*"

LIVEABILITY

Interviewer: How do you see liveability ?

DLCL: " *Liveability is an outcome of bringing different disciplines together.*"
DLCL "...I think Quality of life is very individual and is also in a certain way a permanent transformation. So when you state what liveability is or quality of life is for the society and generation today, you have to be very careful about not taking this granted that this will be continuously the same - it won't"

" What we figured out in our research is that liveability is in a permanent transition, continuously transforming the values. I have been working in many different societies like in Asia or India, America or Europe, and it is very different how people define e.g a decent life or desires, it very much depends on the cultural context - it is very different. "

ANALYSIS

DLCL has an interest in people's values, association to society and cultural relations, which are mentioned in relation to architecture and urban planning. This shows a very subjective way to explain the notion and, at the same time, it is dynamic because according to DLCL liveability is in a permanent transition that will be affected by many factors like the culture, location,etc.
Secondly, DLCL shares the ideas of postmodernism, especially when it is stated that liveability is in a permanent transition. By that, DLCL perceives liveability as an non static element and thereby not perceiving it as product or a function.
According to this actor, by using liveability in an organization like Rambøll co-creation between different disciplines will be enhanced and perform as an arena to bring people together in a collaborative way.

Though, DLCL also addresses the silo based structure of Rambøll as a hurdle, not only in terms of approaching liveability, but also in terms of the main targets in the strategy and underlying founding philosophy of Rambøll, which promotes the idea of integrated design solutions. DLCL believes that the new strategy '*Winning Together*', may give liveability a push in the right direction in terms of that it provides value for the client, but also fulfills the listed targets in the strategy.
The issues DLCL detects also indicates the need to make the different cultures work together and see the potentials. Human related issues can not be measured or quantified, DLCL therefore argues that other professions are needed to shed light on the issues with applicable scientific methods, only certain professions can deliver.

ENGINEERS

ENGINEERS	-SD4-E1-E2-

INTERVIEW 8: SD4

SD4 is an engineer and possess the role as a group director.

WORK PROCESS

Interviewer: The new strategy points towards more multidisciplinary collaboration and knowledge sharing across professions, which is somehow the dna of liveability. How do you see it?

SD4: *I jeres perspektiv, kan jeg godt se at det passer meget godt med liveability, men når jeg ser det i min verden, så handler det om at vi indenfor byggeri, el osv skal være bedre til at arbejde sammen. Arkitekterne tror at den største battle, er mellem arkitekter og ingeniører, men det er faktisk mellem ingeniør og ingeniør.*
Jeg tænker mere at det er overfor kunden vigtigt at være behjælpelig på en tværfaglig måde, ift. når han skal tage nogle beslutninger om hvordan hans projekt skal tildannes og se ud - altså helt tidligt hvor man skal udvikle sine projekter. Der kunne en antropolog komme ind med rigtig værdifulde pointer.

[...] Men det sagtens være vi skal inddrage endnu flere for at blive bedre. Hvis argumentet er at vi kan vinde nogle flere projekter, ved at inddrage det - så er jeg solgt.
Hvis argumentet er at når vi har projekterne, så skal de bare være inde og komme med noget mere - så er de fyret !

Interviewer: Is there a need for restructuring the work procedures?
SD4: *Jamen kun i den udstrækning at kunderne efter-*

spørger det, fordi når projekterne er landet, så har vi siddet i nogle hæslige kontraktforhandlinger hvor vore ydelse er skåret benhårdt til og vores honorar er presset i bund og vi har fået fuldstændigt defineret, hvad vi skal levere - så er det meget svært at ændre et komma i det og vi bliver nødt til hele tiden at skære vores ydelser til.

LIVEABILITY

Interviewer: Her tænker du på liveability ?

SD4 : *Jeg tænker kun på penge, det skal vi lige have klarlagt her. Jeg er ligeglad med hvad det hedder, hvis det er noget vi kan tjene penge og det giver god mening og det i øvrigt er i Rambøll ånden, herunder også liveability . Så er det noget vi gerne vil og vil satse på. Vi satser ikke penge på noget, som vi bagefter kan se ikke er rentabelt eller giver noget i den anden ende - aldrig. Det er benhård forretning.*

Interviewer: Hvis det er en strategisk satsning fra jer, må I også have en mening/syn på dette ?

SD4: *Det svære er at definere, hvad liveability er for noget. Der er meget snak om det, det handler om hvordan man udvikler sine projekter og der spiller vi en rolle ift. energi og indeklima osv og brugerkrav.*

(...) Liveability bliver en lille smule rigid, når det kommer til udtryk i DGNB.[...] Jeg synes der er meget mere design i det her - fordi hvis du ser på de bygninger som er udført og har fået deres DGNB stempel, og så går der 2-3 år hvor folk ikke synes det er så fedt et hus længere - det er ikke særlig liveable.

Interviewer: Så det skal komme fra kunderne ?

SD4: *Jeg er her ikke af andre grunde - hvis der ikke er nogle kunder som efterspørger det jeg skal og det vi leverer - så er det ligegyldigt. Vi kan godt gør opmærksom på, vi kan snakke om det, vi kan spørge kunderne - der er mange ting vi kan gøre, hvis der er en ydelse vi gerne vil have løftet ind.*

ANALYSIS

For SD4, money is first priority. The notion of liveability exists peripherally, but is only perceived as something physical. The conception of liveability seems to be on par with the DGNB certification system, which is a quantitative and objective way of evaluating. The combination of a strong business minded mentality and identifying liveability more as a product for the client, relates SD4 to the ideas of modernism.

In relation to work procedures, SD4 does not see the necessity of cross-disciplinary collaboration throughout a project. Integration of different (humanistics, cultural and social) disciplines in the design process seems to irrelevant, if there are not any request from client. Professions are invited, when they are needed. The involvement of more professions can be a possibility, if the economical prospects are green. SD4 may perceive different professions as resources, than members of a group - the business mentality shines through here. Opposite to interviewees, who share thoughts of postmodernism, SD4 does not see liveability as an approach wanted in every project, but more as an extra service or function to the client. The reason for making cross-disciplinary work, should come from the client. This statement does also strengthen SD4's conception of liveability as an extra application/product to a project. It is only needed, if it is requested.

INTERVIEW 9: E1

E1 is a sustainability engineer from the department of private and public buildings east/ commercial buildings and sustainability.

WORK PROCESS

Interviewer: Based on readings and conversations, it appears that an involvement of sociologists or anthropologists would be helpful when designing. What do you think about it?

E1: " *When a guy like me within an engineering background sees the potential in this field, but also attempt to convince my engineering colleagues, it is a struggle. So, making ownership from the engineering perspective is something we need to think about, integrating the architectural part into the engineering part - this is important.* "

LIVEABILITY

Interviewer: When you define quality of life, a term part of liveability, how do you define it, do you follow any kind of norm?

E1: " *The only thing we need is to have a common knowledge and a common understanding from a very humanistic and social scientific perspective. The challenge is to figure out how we can develop this in a design oriented service for our engineers. This is something we need to have ownership of in the different departments. We try to make ownership of this way of working and having the end user in focus. Having the end user focus and the understanding of the social norms in a liveable building, is important for the client as well. Because the client wants something for the end user to buy.* "

"...We struggle with these terms (like quality of life), because how can we sell something you can't show on paper and get value for money? This is something we have been struggling with from the beginning."

" *... As we describe liveability, one thing is the individual need and motivation and the second thing is the societal need - how do you create building and cities where peo-*

ple can meet each other. Not only thinking of the individual needs but also make them interact with each other.“ “... It sounds like liveability is fixed within a short term period, but I also think that liveability is dynamic.“

Interviewer: So, you don’t distinct between liveability and sustainability ?

E1: “ *I think the cultural and social and all those aspects are also parts of sustainability, but what you don’t look at in liveability is the economical perspective.*
Sustainability is a method of working, for me. It’s a method of thinking and it’s a cultural change to make people think sustainable because it is an interlinking profession - forcing people to think multidisciplinary. “

“*...Looking at liveability as an example could help the process, where the citizens and users are involved. We are looking at how you can implement this more efficiently - we have a lot of ideas concerning social sustainability in many different ways, but how do we implement it and how do we keep focus on end user and the society throughout the project ? “*

ANALYSIS

E1 shares the ideas of postmodernism and makes an effort in making ownership of liveability as a way of working and thereby not perceiving it as a product. There’s a need to encompass other perspectives to understand the world, humanistic and societal scientific, this underlines a need to include multiple disciplines.

E1 reflects the thoughts of Jane Jacobs and Jan Gehl, who also placed and prioritised humans before society, by understanding their values and relations in the presence and near future. Though, as many of the other interviewees E1 also underlines the importance of convincing the clients to invest more in this way of working, but at the same time states that it is difficult to sell something as quality of life to a client, because it is not tangible or measurable. The difficulty in, for instance, defining quality of life stems in how the engineers in this department perceive it. There is a challenge here as E1 states. The ambiguity of liveability’s vocabulary has an influence, when approaching the client.

A common understanding is needed, before reaching the client. Making engineers think ‘liveable’ when approaching projects is a struggle as E1 mentions. Implicitly, this also points towards the difference in mentality or cultures, which rules in the organisation.

JOURNALIST
INTERVIEW 10: J1

JOURNALISTS	-J1-

J1 is a journalist from the department of architecture and existing buildings.

“*Jeg arbejder med at få folk til at samarbejde bedre. Det kræver at man fortæller nogle historier, det kræver at man videndeler, det kræver at man lobbyister lidt omkring. Jeg afholder workshop, interviewer nogle folk og alle mulige ting for at skabe bedre muligheder for at samarbejde på tværs*”

WORK PROCESS

Interviewer: How do you see your role in Rambøll ?

J1: “*Jeg ser mig selv som en fri agent der svæver rundt, fordi hvis jeg skal skabe relationer mellem folk, så er det vigtigt at jeg kender den måde vi tænker på. Vi kan ikke ignorer at det er en business, men derfor er det vigtigt at spørge hvordan kan samarbejde skabe noget bedre business.*”

Interviewer: Do you think liveability can solve strategic issues as cross-disciplinary work?

J1: “*Jeg synes at liveability eller bæredygtihed skal være vores tilgang til alle projekter. Det er klart, hvis det ikke bliver til koncepter eller hvis man ikke inspirerer folk til hvordan man gå til det ift. byplanlægning eller almene boliger. Hvis der ikke kommer inspiration til måder at gøre tingene på, så blive det ikke bæredygtighed.*
Vi skal også hjælpe kunderne med at formulere hvad de efterspørger. ”

Interviewer: How do you think cross-disciplinary collaboration could develop?

J1 : ”*Man kan samarbejde formelt og uformelt. Formelt, bliver tit noget med at se hvad er det der bliver bedt om at blive løst - og så sætter vi et hold efter det.*
Men det skaber en umiddelbar vidensdeling i projektet, fordi man nødt til at kende hinanden og det tager tid. Så derfor er det uformelle samarbejde endnu vigtigere”

Interviewer: How do you see liveability in general

J1 “*Det er ikke en add-on, det er ikke noget ekstra du putter ovenpå, det skal være vores grundtilgang. Det skal være en inspiration til skabe endnu bedre projekter - en gevinst for dem der sidder med projekter*”

LIVEABILITY

Interviewer: How do you see liveability in relation to Rambøll?

J1 “ *Der er nogen der vil sige at vi arbejder med sustainability/ liveability fordi markedet efterspørger det - men det er grundlæggende forkert måde at se det.*
Fordi vi har sådan set allerede gjort det. Vi gør det fordi det ligger i vores dna, at vi gerne bidrage til at skabe nogle projekter , der kan skabe noget af verden. “

"*I liveability, skal man se på folk som fagligheder. Det der er interessant i en stor organisation som skal fungere, er at man er nødt putte dem i kasser*"

ANALYSIS

J1 uses the notion liveability as an approach needed in all the projects. Liveability is not seen as an 'add-on' or a product, this statement also places J1 away from functionalist and modernist mentalities but within the ideas of the post modernism. It seems that the role which J1 possesses, as a free agent in between the departments, has provided him the ability to adapt a lot of different cultures and mentalities in Rambøll. Free agents, who can work as 'bridges' and 'facilitators' between departments are needed.

J1 states that in order to create relations between people, it is important to know how people think. One of the solutions to open up the boundaries between mentalities is to initiate informal dialogues and meetings with a cup of coffee, to 'loosen' up and converse in a more personalised manner. The coffee could act as an interessement device, to create a reason to meet, where professions from different department can get a chance to network, share thoughts, experience in order to enhance social relations as well. J1 points out that the informal collaboration is even more important than the formal ones in projects .

Furthermore J1 underlines the necessity in having a consistent vision from the administrative level all the way to the client/end-user. It is important that a concept or inspiration is delivered to the different professions in order to make them think '*liveable*' or '*sustainable*', when they approach a project together. J1 is in favor of holistic thinking and argues that it will help to reach the clients requests and thoughts better. It is therefore also important that the organisation move away from perceiving the employees as resources only, but highlighting that they are different professions, who can contribute. J1 is implicitly addressing the different mentalities, which exist in the organisation. On one hand Rambøll is a "machine", striving for making money and on the other hand it is an organisation striving for working more across departments, sharing knowledge etc. The advocacy of more informal interactions may therefore be the first step towards making people be immersed in each others´ expertise.

URBAN PLANNERS

INTERVIEW 11: E3

URBAN PLANNERS	-E3-

Liveability is viewed here from an urban designer perspective. I3 is a civil engineer with a specialty working in the urban development and transport department.

WORK PROCESS

Interviewer: Is it necessary to change any work procedures to achieve liveable projects and at the same time fulfill the strategy for 2020.

E3: *Vi har snakket om at blive bedre til at tænke hinandens fagligheder ind i projekter altså arkiteker, grafiker, designere, antropologer, kommunikationsfolk osv. Eksempelvis i starten af en tilbudsgivningsfase, afholder vi et brainstorm møde hvor de forskellige fagligheder kommer med input og der vægtes om det giver merværdi til kunden. Det er selvfølgelig i vores afdeling og vi kender hinanden så derfor er det til at håndtere - men hvis du skal have det spredt ud på tværs af afdelinger er det selvfølgelig svære.*

Interviewee: Does project budget have any influence on liveability, do the fact it needs many professions?

E3: *Udfordring med budget, da muligheden for at fordybe sig afhænger meget af budgettet. I tilbudsgivning, konkurrere vi meget på pris og der er det let at skære de tilgrænsende ting som tværfaglighed fra.*

LIVEABILITY

Interviewer: Hvordan påvirker det seneste årtis tendenser inden for urban planning og liveability, såsom flere cykelstier, mindre areal til biler osv - jeres arbejde?

E3: *Det er lidt begge veje, tendenser kan skabe os men vi kan også være med til at skubbe til tendenserne. Ift. borgerinvolveringsdelen, fik vi en kommunikationsekspert ind i afdelingen som kunne nogle ting som vi andre ikke kunne mht. kunden. Hvis vi har de forskellige faggrupper sammen, kan vi overbevise kunden om en mulig merværdi i sidste ende.*

Kunderne er også blevet tværfaglige over tid. Engang var kunderne kun ingeniører, hvor der i dag f.eks. kunderne hos København Kommune er tværfaglige. Hvilket betyder at de kommer med nogle ønsker og erfaring fra deres uddannelse der åbner op for nye perspektiver og områder der skal undersøges i et projekt.

Interview: Do you see any problems with liveablity ?

E3: *Det tager at forstå de fagområder der kommer ind, fordi vi ikke taler samme sprog. F.eks. har kommunikationsfolket med deres baggrund en helt anden opfattelse og metode til eksempelvis borgerinddragelse end den jeg har som ingeniør. Jeg skal prøve det nogle gange for at forstå de forskellige metoder.*

(...) Vores antropolog har være med til at supplere vores quantitative analyser med qualitative analyser, ved hjælp af observation af folks adfærd, gå mønstre osv.

ANALYSIS

It seems like this actor has experienced a transition from thinking functionalistic to now aiming for post modernistic ideas. E3 identifies that the main tension concerning liveability is about collaboration and the ability to understand each professions methodologies and approach to the notion. For E3 it took time to adapt and learn how the new types of thoughts would contribute with value, but as E3 admits i.e. the involvement of anthropologists and communication people have opened new doors. Previously areas which would lead to studies of demography, culture etc. would be neglected due to ignorance and also because projects, were not approached holistically. One might say that the introduction of scientifically opposite professions to engineers in this department has added an "*extra dimension*" to the functionalistic thinking.

E3 also points to tendencies with regards to urban planning and architecture, that the involvement of more professions around tender processes is a reaction to clients' requirements and thoughts. It goes both ways, by collaborating cross disciplinary within Rambøll eases the collaboration to clients, who demand for holistic projects, as liveability.

There is a culture clash within Rambøll, when E3 mentions that the limited money and time has an affection on the ability to collaborate for instance around topics as liveability or sustainability. It reminds one about the fact that Rambøll is also a business, striving for success through loads of projects. As Gilman (2013) stated about cultures in an organisation. The competition between these 2 sets of distinct cultures can dramatically impact the success or failure of an acquisition. If the culture and mentality on the administrative level lean towards business and money oriented objectives, it may difficult for a new culture to evolve, especially if it changes some work procedures and thereby existing processes.

E3 mentions that they are currently operating with brainstorms in their department involving a lot of professions, when there is a tender to submit. Because as E3 states, it may provide more value in the end and fit more to the wishes of the clients. Though, E3 underpins the importance in knowing each other both formally and informally, to be able to talk the same 'language'. This is also something J1 points towards.

ETHNOGRAPHERS

ETHNOGRAPHERS	-ET1-

INTERVIEW 12: ET1

ET1 is an ethnographer from the architectural department, working with user involvement and process consultancy in the early phases of design projects in the architectural department.

WORK PROCESS

Interviewer: How do you see your role in an organization like Rambøll?

ET1:"*Sometimes I feel detached from the other disciplines, because the work procedures does not allow me to fully unfold my skills*"

LIVEABILITY

Interviewer: Do you see Rambøll can approach Liveability?

ET1: " *I think this is a long learning process. I mean, it is a long process in Rambøll and for me. With our team we always have to figure out how things are connected and get out of the silos. Connecting things is the meaning of liveability: Cross disciplinarity; Connection between social, cultural & physical parameters.*"

ANALYSIS

ET1 is part of the same department as A1, A2, A3 and J1 and this is reflected in the human centric approach to liveability. The background and the native culture talks in favor for this approach. Thereby ET1 shares the ideas of postmodernism, where humans were centred and the need to look into humans relations to society and physical environment, need to be addressed. ET1 highlights the importance of connectedness between professions, which as a result can provide a connection between social, cultural & physical parameters. Cross-disciplinary work is suggested as mean to this.

Though, ET1 implicitly points towards the cultural differences which exists in the organisation, where assumptions about other profession's expertise and knowledge seem to have a strong presence. ET1 feels detached from other professions, when for instance working with within projects. The skills and expertise of ET1 is not fully performed, due the fact that these may not be suited for the project-based work procedures, which exists in Rambøll. But, also because there may an ignorance in what an ethnologist can contribute to liveability.

8.4 DIVISION OF THOUGHTS

Figure 30 visualises how the different interviewees relate to the different schools of thought. Their concerns and ideas about liveability and underlying work procedures, budget factor etc. were identified and related to main ideas of the schools of thought.

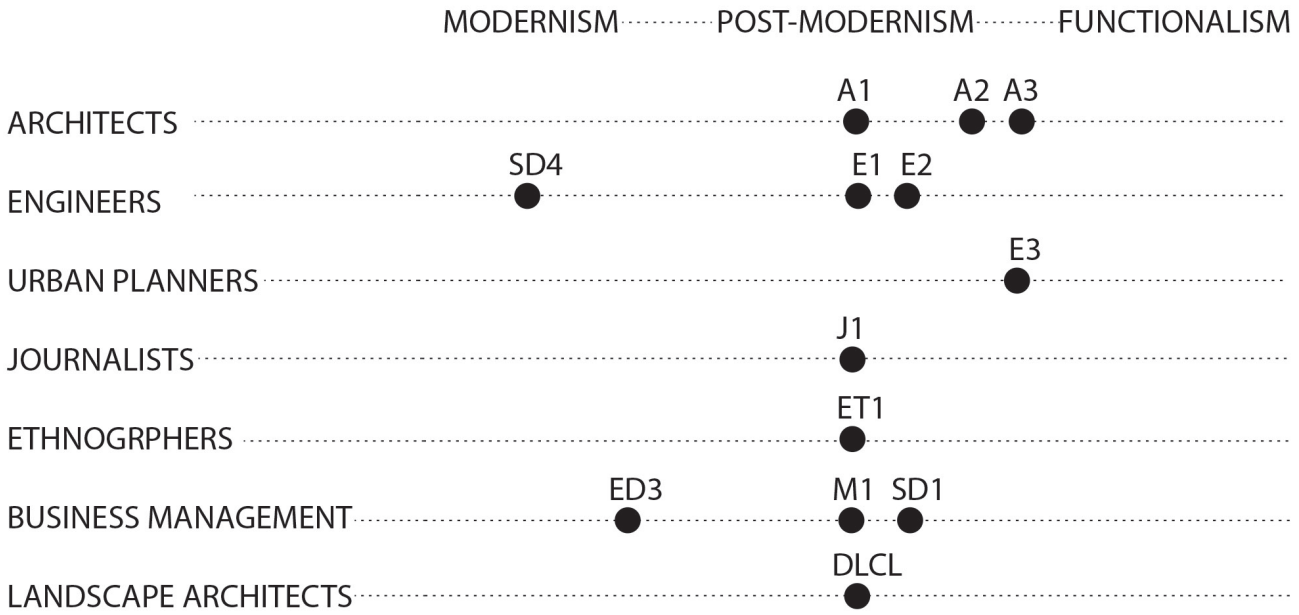


Image 30. Relation professions at Rambøll and School of Thoughts
Source: (Granados & Kulasingam, 2017)

It is clear that there is majority of professions who share the ideas of postmodernism. The ideas about humans' 'situatedness' and allowing people to perceive the world individually is reflected in these particular professions statements. There's no unequivocal answer to liveability - it's dynamic. The idea of liveability as an approach seems to be prevalent within these professions' mindset. Having several professions creating new knowledge from their own contribution of knowledge to a project, should be the objective in every project. Thereby it is possible to capture the full measure of liveability, shed light on issues from the beginning, which in the end can be valuable for the client and the end-user.

The professions, who share the ideas of modernism and functionalism have a common interest in money and if liveability could profit in the end. Liveability is seen as an application to the existing work and it should be delivered as a tangible product to the client. The concern about budget shine through for especially SD4. It should not be taken as a negative thing, that SD4 concerns about this, due to the fact that Rambøll is an independent company as well. A3 who shares ideas of both postmodernism and functionalism also makes a remark about the challenge of making liveability profitable, if it's archived, then it catalyses the need for working liveable. Though, the ignorance of working '*liveable*' would provide something valuable in the end is unclear for these actors. The efforts made in working more together or cross-disciplinary have to pay off in the other end. This topic of approaches to liveability and budget as an influencing factor will be discussed later in this chapter.

8.4.1 CULTURE AND ORGANIZATIONAL STRUCTURE

There is a general perception, that the diverse approaches may stem from the different work cultures, the employees belong to. It is for instance interesting to see the different views, which SD1 and SD4 represent even though they possess the same administrative role, but for different departments. The work culture and individual visions on liveability may play a role here. As ED3 stated, strategies are interpreted by the SD's and it's up to them to incorporate e.g. liveability as a tool or application in the fulfillment of the overall strategy and philosophy of the company. It is a problem if the notion of liveability is not defined on same way for each department, making it more ambiguous than it already is for the employees.

People affect each other in each individual culture and create their own assumptions and views on things, based on the overall vision or strategy. In relation to liveability and the objective to work cross-disciplinary, Schein (1996) mentions that *getting cross-functional project teams to work well together is difficult because the members bring their functional cultures into the project and, as a consequence, have difficulty communicating with each other, reaching consensus, and implementing decisions effectively.*

The different work cultures, which exists within Rambøll play a role when gathering people together in collaborations. Communication, conception and comprehension barriers may emerge. A majority of the actors also

points towards the silo based mentality in the organisation as being a hampering factor for working across divisions and departments. These silos are strictly steered by budgets, making it difficult to 'pull out' some hours to network or to 'freely' make an immediate involvement, if needed.
As stated earlier in this thesis, it is assumed that Rambøll is a project based organisation, which the silo structure also underpins - departments work individually and draw on resources from others, if necessary. The ability and possibility to learn how to learn from each other, seem to be complicated, if the organisation structure is set up in favor OF each department's' success.

8.4.2 PROPOSED SOLUTIONS

Free agents' , 'liveable agents', 'co-creation', 'cross-disciplinarity', 'common platform' (J1, E2,M1, DLCL, SD1) are some of the terms which were broad up as proposed solutions for delivering liveable projects.
What's remarkable, for instance, is that J1 and E2 see themselves as free/liveable agents moving around in between departments, indicating that there is a need to make 'bridges' between departments and people. J1 do also states that "*in order to create relations between people, it is important to know how people think.* " These terms relate to each other and it is clear that liveability should be approached from several professions, in order to embrace a project holistically. Though, these are only proposals with no further explanation of how to conduct co-creation, make cross-disciplinary work or establish a common platform for employees to relate to. The fact is though as E1, DLCL and ED3 state, a common understanding of liveability and its approach is needed before reaching the client. This acknowledgment leads to co-design as a possible method, which may have the ability to enhance the holistic understanding of the term and integrate the different professions into a collaborative arena that reflects the cross-disciplinary nature of liveability. This will be discussed in following chapter.

9 DISCUSSION

9 DISCUSSION
9.1 INTRODUCTION

The outcome of the analysis underlined a problem concerning the ambiguity of the notion liveability. People think differently about the content of liveability and there are certain areas which are more comprehensible for some than others. Quality of life, amenities etc.- parts of liveability are interpreted differently or difficult to define/perceive for some. Furthermore there is a confusion in how to approach and define liveability in Rambøll context, some see it as a profitable product, some see it as a process and some both.
The historiographical description did also point towards this ambiguity, by showing the different problems which were addressed by the different professions throughout time - making liveability's nature undefinable and diverse.

This ambiguity stem from the different assumptions, employees have concerning liveability. Assumptions, which derive from the particular culture, the employee belong to. Shared assumptions are typically formed around the functional units of the organization. They are often based on members' similar educational backgrounds or similar organizational experiences, what we often end up calling "stovepipes" or "silos. (Scheinn,1996). These silos constitutes the skeleton of the Rambøll organisation, where own agendas, business plans and budgets have a steering factor. According to Scheinn (1996), this has an influence in employees' mindset and approach to certain things. Grouping employees with same educational background together, do also have an influence on the culture and mindset.

Three cultures were identified related to the employees working in Rambøll.

The majority of the employees from the postmodern culture pointed towards cross-disciplinary collaborations as a tool to approach liveability with humans/clients/users in center. Some concluded that every project should be approached as liveable project, due to the fact liveability was present in a lot of aspects.
Employees with functionalistic ideas underlined the necessity that liveability had to 'function' in the end and saw liveability both as a process, but also as something which could be 'delivered' in in the end. The last group had a modernistic point of view and wanted liveability to be a profitable product. Employees were perceived as accountable resources and not as part of a co-creative group. Notably this view was dominant on management level, where profitability and the number hours is on stake, in each project.

As a result it is not only the organization that needs to change in order to work liveable in each project, it is also the management. Rambøll is 'measuring' the employees in a certain way that will prevent client centrism to come through. The coherency between the silo mentality, project based work and the mindset of certain managers has a hampering effect in working more co-creative. As long as Rambøll keep people with this kind of thinking, working in silos, using kpi's, etc. the implementation of the new strategy winning together will also be restricted.
Liveability is a measure build up by multiple disciplines, to cover all aspects which have an influence on a human's life - therefore it should also be approached by a collaboration of multiple disciplines. This is also something 'Winning Together' state as a top priority in terms of being more client centric. In the end liveability and the strategy point towards the same objective - the importance of involving the end-user.
There is therefore a big potential to support the new Rambøll strategy, because a certain amount of the employees are already signaling a wish to do it and they have some ideas of how to start due to their experiences from previous projects.
The main objective of this thesis is to conceptualise the notion liveability, seeking to provide procedures to follow, that would underpin cross-disciplinary work and involvement of users on the long term. Co-design is presented as a possible tool to enhance cross-disciplinary work between different cultures and thereby unfolding the different conceptions of liveability, in an agile manner. The agile perspective will produce an interactive circular movement that avoids planning and without a restriction of time, budget etc.

9.2 CO-DESIGN

The philosophy of co-design is about collective creativity as it is applied across the whole span of a design (Sanders & Stappers, 2008), by inviting the stakeholders and user into the 'product', so they become one with it, through a participatory innovation process.
The main point with co-design is to create a new forum of where these stakeholders can meet on common basis. It's a forum where knowledge across boundaries is the objective, where coalitions of stakeholders can arise due to new 'boundary object' and where people from various professions should make advantages of each other's different conception.

Co-design does not limit it itself to a certain group of people, it is a close collaboration between all the stakeholders in the design development process together with a variety of professionals having hybrid design/research skills. These team players will vary across many types of cultures simultaneously: disciplinary culture, company culture, ethnic culture, worldview, mindset, etc. (Cross, 1972). In relation to Rambøll and the conceptualisation of liveability, it is important to involve as many cultures as possible, to shed light on every interpretation of the notion. New insights and new issues will arise, but within the collaboration, where it is possible debate and discuss the topics.

Part of the collective creativity involves the client/ end-user as well, the user will not only inform the designer, but also collaborate with the designer. Doing co-design is a process, from engaging the user (participatory design) , to observing the user (user-centred design) to finally collaborating with the user (co-design), as Figure 31 visualises.

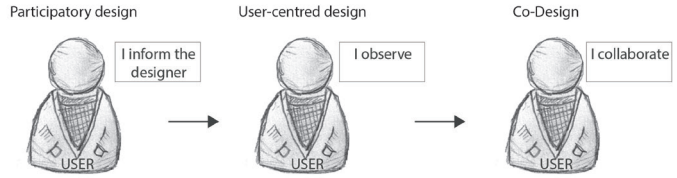


Figure 31. Role of the user in co-design
Source: (Granados & Kulasingam, 2017)

Co-design forums should be perceived as a mean, where stakeholders from both Rambøll and society can meet and create new knowledge, new solutions or new approaches concerning liveability. In relation to the strategy and the aim for more client-centrism, these co-design forums can help as a mean to be better at collaborations, understand people and adapt other mindsets.

In relation to the liveability concept, co-design forums is at the same time a place, where group of multiple disciplines can transfer to work cross-disciplinary around liveability. There's a need to unveil each cultures' particular angle on liveability, to expose the full picture of the notion and the capabilities in the organization. This contributes to new insights and learning of new liveability aspects, which was unknown before.

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A forum of interaction could for instance be co-design workshop, design lab or a design game, where the participants are in a shared temporal and spatial setting often removed from the known surroundings.

To exemplify a working space of interaction, a workshop was conducted in collaboration with Rambøll. The objective was to discuss liveability as a notion, engage different employees into the topic and finally as observants to examine how the different employees participated in a co-design working space.

It provides an open forum, or as Sork (1997) states workshops are, by definition, active learning environments where participants expect hands-on practice and a high degree of interaction and collaborative learning. The high level of transparency between the participants, which may be created in a forum like this, may ensure that liveability will be discussed 'without filter' and articulated in experience based manner.

9.3 WORKSHOP- FIRST ATTEMPT TO CO-DESIGN

The workshop performed in Rambøll was in favor of this thesis and the concept of Liveable Building 2.0. In this thesis, the workshop was perceived as a 'first attempt' for gathering multiple disciplines into a forum, where liveability was highlighted by different angles.

This exercise is therefore considered as a fine point of departure in how co-design should be composed and, thus the first application of the liveability concept.

A subsequent reflection and discussion of the conducted workshop, will lead to missing features, which are considered necessary in the final workshop to the concept.

The following features were part of the workshop:

- A presentation about the notion of liveability and the need for conceptualize the term.
  An elaborated description of the history of liveability was presented, where the different schools of thought were highlighted as having an impact on the word. Statements from interviews were presented as well, to visualise the diversity of conception, which existed in Rambøll.
- Barometer exercise - displaying employees' position (specific location in the room) in relation to questions about liveability. (Figure 32) The employees had to place themselves on the 'A' side or 'B' side, according to the answering of questions.
- Brainstorm exercise - raising the question of what liveability is in relation to two selected buildings in Copenhagen (Figure 33)
- A lecture concerning implementing concepts in an organisation

This part of the workshop will not be discussed in this report because was made by an external collaboration.

Worksheets produced from this workshop can be found in (Appendix n. 3.1)

Image 32 & 33. Source: (Granados & Kulasingam, 2017)

The participants consisted of architects, engineers, anthropologists, constructors, ethnographers and client consultants. In the spirit of liveability, it was necessary to involve multiple professions from different departments to trace the different perspectives on liveability both personally and professionally in projects.

Figure 34. Participants in the workshop
Source: (Granados & Kulasingam, 2017)

Figure 34 shows the workshop participants background and department.

Fourteen employees were invited into the workshop. Four architects from the architectural department, where two of them are experts in sustainable buildings and liveability. One anthropologist and one etnograph from the process and development (architectural department), one economist from the management department, two client consultants and sustainability, one constructor from private and public buildings, one engineer from installations and
ventilation, one external associate professor from Aalborg University and ourselves.

The goals of this workshop was threefold;

- To problematize the ambiguity of liveability, justified by findings in literature and results from interviews in Rambøll.
  This problematization intended to frame the topic for the workshop, but it also 'talked' to the different employees, who may identified themselves with the key ideas from the schools of thought or their fellow colleagues statements.

- To interest employees by doing exercises concerning liveability.
  The activities that took place also acted as interessement devices for the employees, where they had to commit themselves to a question or express how they interpreted liveability on paper.

- To clarify the need to work more cross disciplinary around liveability.
- The purpose of the brainstorm exercise was to reveal the many angles of liveability, could be interpreted. Thereby it should have been an eye-opener for the different employees.

The purpose of the brainstorm exercise was to reveal the many angles liveability, could be interpreted. Thereby it should have been an eye-opener for the different employees, to confirm or disconfirm the assumptions about other professional expertise and knowdledge.

9.4 A WORKSHOP FIT FOR THE CONCEPT

The first attempt to create a workshop for the employees provided elements, which could be kept and elements, which needed to be incorporated in a workshop for fitting the concept. This will be reflected and discussed in the following paragraph. The first workshop was seen as a 'tryout' on creating a co-design arena.
What is needed to work cross-disciplinary ? The deep understanding of liveability and its key components?

9.4.1 STABILISING THE LIVEABILITY NETWORK

A workshop should also be considered as a temporary "liveable" network of human actors and non-human actors. The many different employees may, through participating in workshops, create relations or change them between each other. This is seen as an outcome of translating processes and defining the context of the network (Clausen & Yoshinaka, 2007)

Callon (1986) describes translation as the following set of actions:

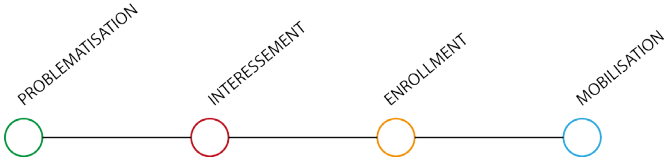


Figure 35. Source: (Granados & Kulasingam, 2017)

Translation itself is defined in the context of multiple cultures as —the task of reconciling the meanings of objects, methods, and concepts across these cultures (Star & Griesemer, 1989) so that people—originally scientists—can —work together. (Worrall, 2008)

In relation to liveability, it means that we actively pursue the employees to take up a new role within this new network, thereby translating them into that network. The involvement of different employees is not only an involvement of different departments, but also cultures. There's therefore a need to appoint people to new roles in relation to liveability, where they realise that they are part of a cross-disciplinary working group. A redefinement of the different occupational roles (anthropologists, engineers, urban planners,etc.) is needed. These professions need to possess the role as co-designers and be integrated into this collaborative arena. etc. The procedure for this will be explained in the following points.

The overall aim with a workshop is to make people in Rambøll, collaborate together across disciplines and create new knowledge. The translation process is therefore seen as an optimal framework for the procedures in a workshop.

9.4.2 PROBLEMATIZATION

The aim of the problematization part is about making the participants indispensable (Callon 1986). The different employees in the workshop, should know that they are individually unique and have the ability to contribute to the term liveability.
A presentation is proposed, where a facilitator identified a certain state of affairs as problematic within the notion liveability, as figure 36 visualises and describes:

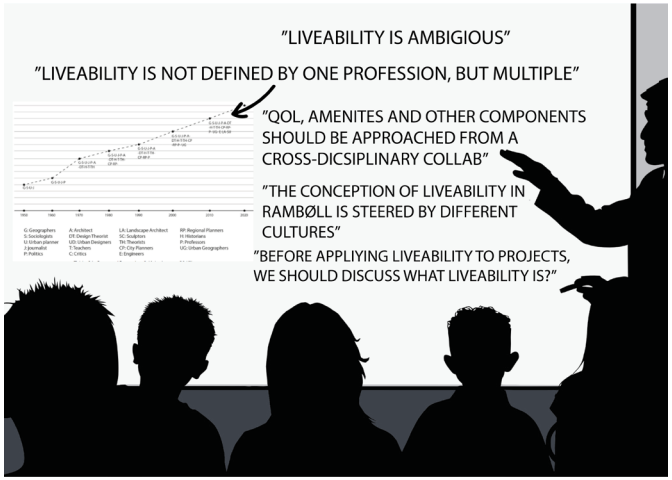


Figure 36. Source: (Granados & Kulasingam, 2017)

Firstly, the ambiguity of liveability has to be clarified by using the description of the historiographical development. The different problems categorized by professions, who had their own perspective on liveability through time, produced dozens of definitions. This extended the content and scope of liveability. This will unfold liveability and provide to the employees not only with a clear explanation of this ambiguity, but also make an interrelation between them and liveability, by pointing at the many professions who have been involved with liveability.

Secondly, the facilitator should present the reality of liveability in Rambøll, by highlighting that there are different perspectives, strongly affected by the departments and their work culture.
The solution is to break these cultural boundaries, which hampers the mutual understanding of the notion liveability. Employees will learn how to learn from each other and about in this case, liveability, by letting the employees explore the different perspectives from others (cultures). As Schein (1996) highlights any lack of alignment among the cultures can hinder learning in an organisa-

tion.
We must find ways to communicate across the cultural boundaries, first, by establishing some communication that stimulates mutual understanding rather than mutual blame (Schein,1996).

9.4.3 INTERESSEMENT & ENROLLMENT - BUILDING A LIVEABILITY NETWORK

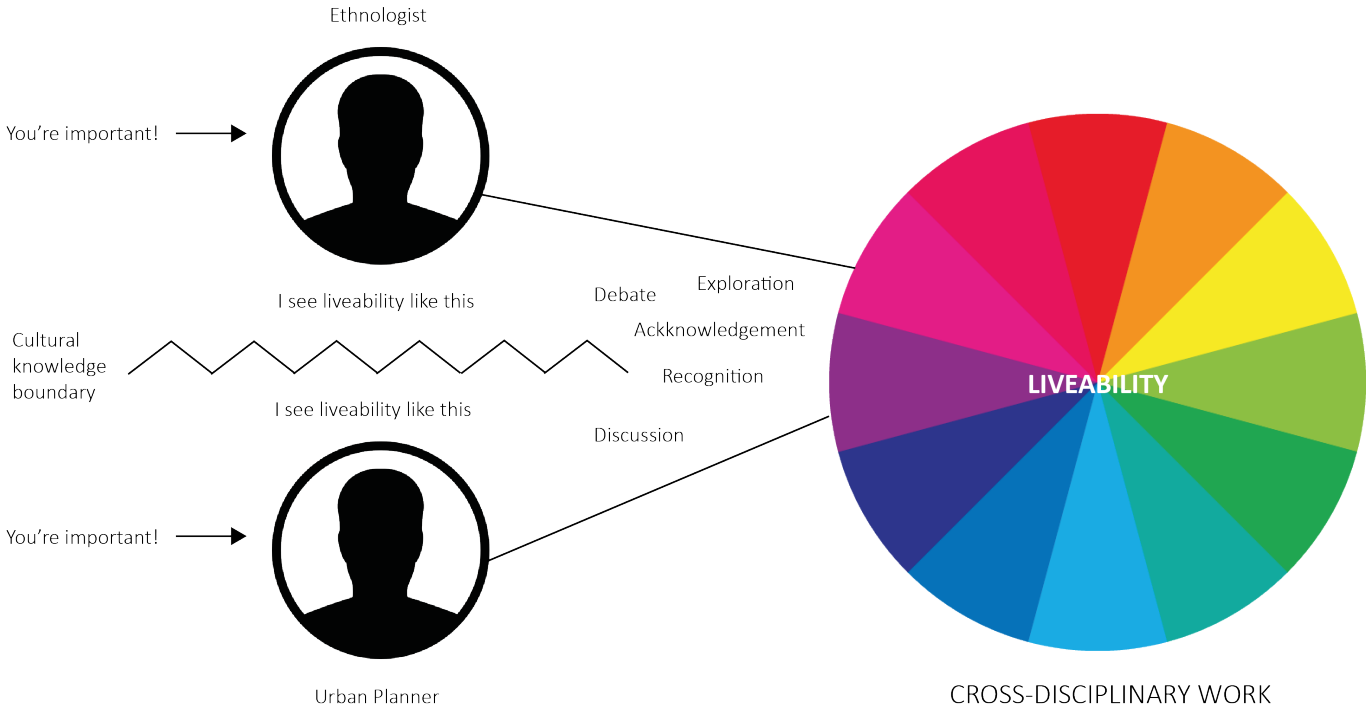


Image 36. Source: (Granados & Kulasingam, 2017)

Within the interessement phase, the actors that were redefined in the process of problematization have to be interested to take up their new roles in the proposed network. They have to believe that their own role, educational background and expertise are valuable for the notion liveability. Making the employees interested is therefore a focal point in this workshop, it is a mean to build the new liveability network and to gain support for working cross-disciplinary.

As figure 36 shows, liveablity is about cross-disciplinary work and it is therefore essential to possess a fundamental knowledge about the notion and, an acknowledgement of other employees points of view to this.

In the second part of the workshop activities will be presented as interessement devices. These activities wil unfold liveability and shed light on the various perspectives of the term. It also underpinnes the need for different professions by display that liveability is not attributed to only one subject.

An introductory activity called the 'barometer exercise' will give an indication on how liveability is conceived in general.
The 'barometer' exercise will reveal the different answers from the participants by the position in the room. By choosing the right side or the left one, the answer of the questions was determined, as figure 32 displays. The different conceptions are immediately seen by the employees, through this activity. The barometer questions can be found in (Appendix 3.2).

Tacit assumptions and knowledge about liveability, will be expressed through this exercise, but without expressing it with words explicitly. It is important to reveal this tacit knowledge because it is intangible for others and based on an intuitive know-how mindset, which stem from the particular culture they are from, or past experience. An exercise, which captures the full measure of liveability, by extracting the employees tacit knowledge into words, symbols, drawings etc. is valuable.

Inspired by the test workshop a 'brainstorming' exercise will be conducted, where the employees have the ability to express their tacit knowledge on post its, by drawings and by articulation derived from past experience. There will be use markers to draw pictures and keywords on sticky notes helping to make things visible and tangible. The more visual, the clearer and better the conversation. Sticky notes help keep the ideas movable, and flexible. Every idea or element was placed on a single note so we could prioritize, make groups, or present one sticky note at a time.
Knowledge boundaries will be exposed and it was evident, that for instance 'liveability' in itself was provided with new insights.
Currently boundaries exist between the different com-

munities of practise in Rambøll because their underlying occupational culture steer the mindset and has an influence on the approach to liveability in general.

Knowledge boundaries do not only have a negative function, the irony is that these knowledge boundaries are not only a critical challenge, but also a perpetual necessity because much of what organizations produce has a foundation in the specialization of different kinds of knowledge (Carlile 2002). It is important to note that the introduction of boundary objects is not for the purpose to make consensus about defining a term, but a new consensus about the fact that there are different definitions and angles to it. We need to 'bridge' between the different communities of practise in Rambøll.
An effective boundary object at a pragmatic boundary "facilitates a process where individuals can jointly transform their knowledge" (Carlile, 2002) in order to create new knowledge.

We suggest that at least three key terms are introduced as boundary objects in this workshop, through activities as the brainstorm exercise.

LIVEABILITY –QUALITY OF LIFE–AMENITIES

The choice of these terms are based on the empirical study in Rambøll, where these terms are understood and approached differently. Literature clearly shows that there is a correlation between these terms, which is also why an exercise, containing discussions and debates, can help to make this more clear.

To shed light on the existing knowdledge boundaries, the following examples of knowledge boundaries concerning the terms liveability, quality of life and amenities, not only show the differences in perception, but also the opportunity to transform these into new knowledge.

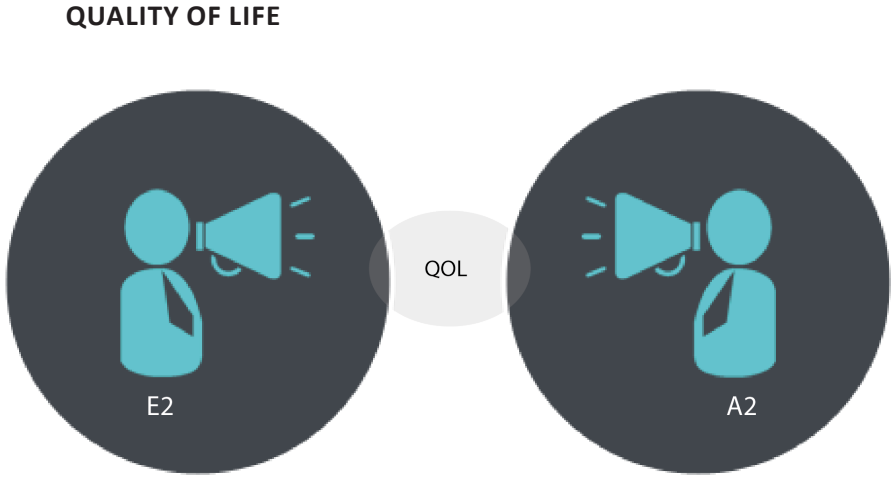


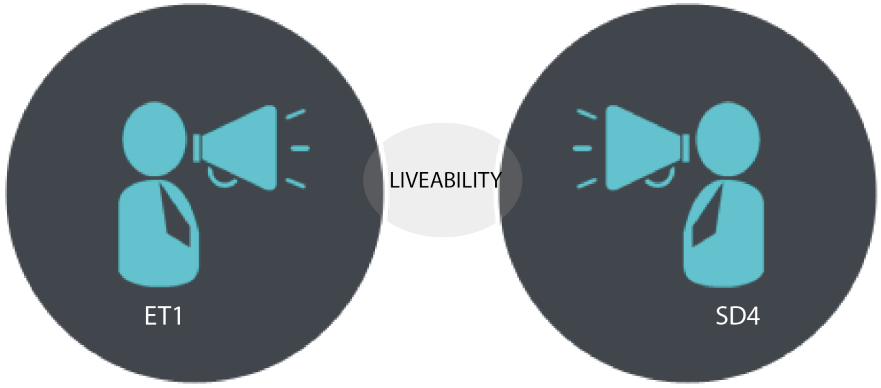
Figure 37. Source: (Granados & Kulasingam, 2017)

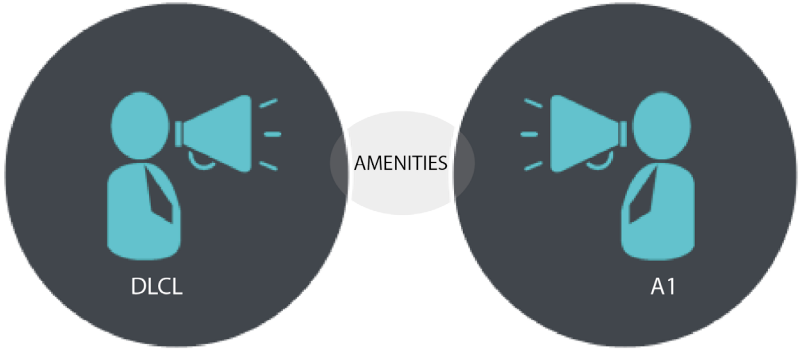
Both parties discuss comfort, but differently. E2 highlights the importance of understanding the social norms, without pointing towards a way to do this. A2 highlights that comfort and architecture has an obvious connection and architecture can help to increase comfort.

LIVEABILITY

Figures 38.39 . Source: (Granados & Kulasingam, 2017)

AMENITIES





"I think this is a long learning process. I mean, it is a long process in Rambøll and for me. With our team we always have to figure out how things are connected and get out of the silos. Connecting things is the meaning of liveability: Cross disciplinarity; Connection between social, cultural & physical parameters.".

"Liveability bliver en lille smule rigid, når det kommer til udtryk i DGNB.[...] Jeg synes der er meget mere design i det her - fordi hvis du ser på de bygninger som er udført og har fået deres DGNB stempel, og så går der 2-3 år hvor folk ikke synes det er så fedt et hus længere - det er ikke særlig liveable. ."

"What we figured out in our research is that liveability is in a permanent transition, continuously transforming the values. I have been working in many different societies like in Asia or India, America or Europe, and it is very different how people define e.g a decent life, amenities or desires, it very much depends on the cultural context - it is very different."

"For me it's an approach to designing. I think of it as a way of approaching my tasks or projects - in a sense that, if I have a given problem, like for instance with a tunnel - how does it improve the larger context ? So, always thinking your problem within in a larger context of what it will give to the city or to the end user"

The approach to liveability is different between ET1 (Ethnographer) and SD4 (Senior director and engineer). ET1 highlights the importance of embracing the connection between social, cultural and physical parameters. While SD4 is more design minded and squarish, referring to DGNB as the guideline.

The approach to amenities is quite similar. DLCL focuses on the necessity of examining the society in the specific context, when designing amenities, because people define it differently. A1 highlights the necessity of thinking in a large context, how for instance the tunnel as an amenity will provide value to a city or the end users. Different focuses, that again underlines the necessity of involving different professions, when working with liveability in general.

Figure 40 Source: (Granados & Kulasingam, 2017)

As we can see, there are different thoughts about liveability, Q.O.L and amenities by only looking at two knowledge boundaries for each of the terms. We can also see that by using these terms as boundary objects on a table with more employees, would shed light on more opinions and elements that needs to discussed and incorporated. The conversations and discussions will lead to a transformation of the knowledge for all parties, they will realise that their individual knowledge is part of others as well - it overlaps and complements as shown on figure 37 and 38.

Slowly they will realise that liveability is not solely about delivering a service based on your expertise, but also about how it enriches other expertises in a constructive way. Thereby they also move from being multiple disciplines working independently to work cross-disciplinary. As Carlile (2002) states, transformation of knowledge is the most important aspect in novel and cross-disciplinarity situations which characterises innovation activities in general and open innovation activities in particular.

We believe that the use of boundary objects, will extract different knowledges into a collaborative arena, where they will be processed, discussed and altered, producing an overall agreement for understanding and adapting each other's' expertise. Relations are made when you know how people think.

The barometer exercise and brainstorm exercise with the usage of the mentioned terms, are suggested as appropriate activities in the workshop.

Simultaneously, if the interessement devices works, the employees will get enrolled in this new collaborative arena, through the discussions and negotiations of new definition and roles. Now, an anthropologist is not only possessing the role as an anthropologist, but as a '*liveable*' anthropologist, part of a cross-disciplinary arena.

9.4.4 MOBILISATION. BECOMING A LIVEABILITY AGENT

Within a workshop, there is only a handful people representing different departments, which leads to the question "will the masses ... follow their representatives?" (Callon ,1986). How can we mobilise the other employees in Rambøll as well? The effort in making employees realise that liveability is about working cross-disciplinary and extract and build on each others knowdledge and expertise, should be prioritised.

There are several ways to involves the masses, either by making workshop a part of projects, where liveability is the focal point or by looking at workshop as an education forum as well.
The interview with SD4 (senior director) highlighted the importance of sharing knowledge, so other employees could think 'liveable' as others. The workshop should, as a result, also be considered a learning arena, where the different employees gets an insight in how for instance ethnographers make their studies of humans, how architects translate terms like 'comfort' into designs, how engineers adapt this to their static design. It is an arena, where employees learn how to learn about others competences and expertises.
E3 (urban planner) stated that this was currently happening in the department of transport and urban planning, with an initial brainstorming exercise in tender preparations "*Det tager tid at forstå de fagområder der kommer ind, fordi vi ikke taler samme sprog. F.eks. har kommunikationsfolket med deres baggrund en helt anden opfattelse og metode til eksempelvis borgerinddragelse end den jeg har som ingeniør. Jeg skal prøve det nogle gange for at forstå de forskellige metoder*." It is a knowledge process, to learn how to learn about other expertises and methodologies.

We suggest that the outcome of the workshop should only provide a common understanding of liveability, but also ascribe the participants with a role as a "*liveability agent*".
The talk about agents and facilitators came up in interviews with J1 (journalist) and E2 (Engineer), who proposed that more employees should possess the role as agents, working 'in between' departments with the aim of building networks and sharing knowledge and experience independently from projects. Thereby you could create networks of employees by knowing some of their key skills, which is valuable when working with liveability. This is not a novelty. Nonaka & Takeuchi (1986) stated, after observations at Honda and Canon concerning product developement that *the drive to accumulate knowledge across levels and functions is only one aspect of learning.(...) Transfer of learning to subsequent new product development projects or to other divisions in the organization takes place regularly. In several of the companies we studied, the transfer took place through "osmosis"-by assigning key individuals to subsequent projects.*

The "*liveability agents*" would pass the message about liveability, by educating other employees to learn how to learn about others' competences and expertises, through workshops as shown on figure 41. At the end everybody would be "*liveable agents*", which also transforms liveability into a general approach in every project, rather than a service, which needs to be delivered.

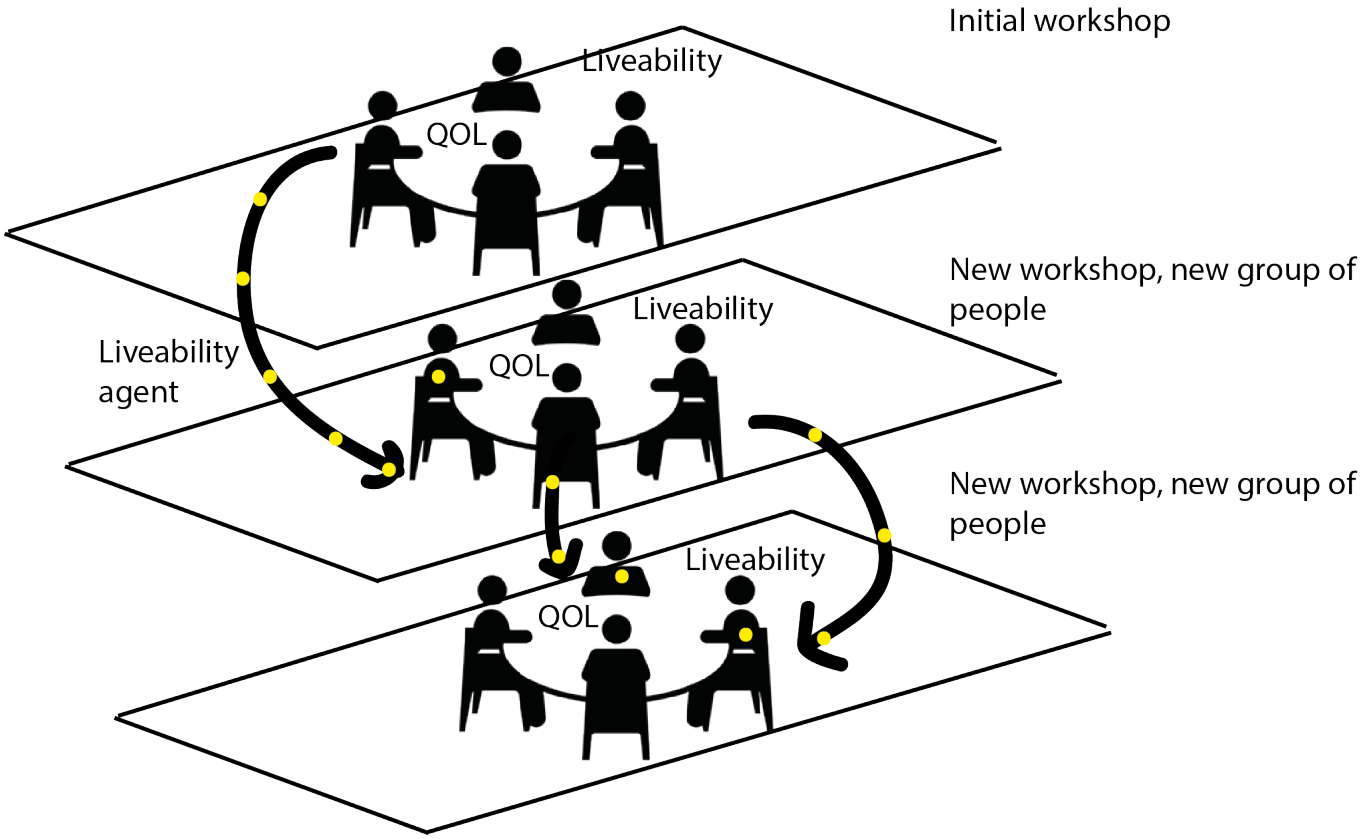


Image 41. Source: (Granados & Kulasingam, 2017)

9.6 INVOLVING USERS IN PROJECTS

There is a need to make employees in Rambøll learn how to learn from each other, before involving user in actual projects. Workshops should involve users, when liveability is present in project context, in the designing of buildings, urban planning or other projects. The user would then design liveability with employees, who already have a mutual understanding in between each other and an understanding of what liveability contains socially, culturally and physically. It will be easier for the project team to address and translate the thoughts and requirements from the user into the project. Client centrism is not only about meeting the user's needs, but also to involve them in the process, workshops, activities etc. to reveal any pragmatic boundary, which only the different professions are able to solve in collaboration.

Though, there are some organisational implications rooted in culture differences, especially in management. This was identified during the interviews.

9.7 REFLECTION ON THE HAMPERING FACTORS

Management seems to have diverse perspectives on liveability and its potential in relation to the strategy *Winning Together.* This has an impact in how work procedures, in the individual departments are manoeuvred and how the notion liveability is passed through.

The first statement Rambøll presents in this strategy is about how they look at clients in 2020:

"*We fully integrate into our clients' processes by living their success criteria and agenda. We draw on all relevant areas of expertise in Ramboll, which drives high client satisfaction*" (Winning Together, Rambøll, 2017).

This is followed a list of current weaknesses in organisation, where especially two points are worth mentioning;

- *Collaboration based 'common projects are more important than own projects' has to improve*
- *Knowledge is not being shared efficiently*

The question is more about how you can shape a given project after the clients´mindset, than how you make clients more center in the project.

In many aspects, part of the liveability concept would fulfill this aim. Firstly by recognising the many expertises

in Rambøll, through workshops or other collaborative forums. Knowledge would be shared efficiently by the use of different activities, to transform any tacit knowledge into explicit, leading to the creation of new knowledge.
On a long term this would lead to a successful involvement of the client/user, where their success criteria and agenda can be embraced by a team of people, who have a mutual understanding of delivering a holistic project.

But in order to make liveability a key approach in every project, it is up to the individual manager and department manager to consider liveability as an approach to fulfill and solve these targets in the strategy.

The strategy is not delivered as a fully elaborated 'manual' from the board of directors, it is delivered as a framework, with key targets.
As ED3 (Executive director) mentioned it is up to the different senior directors and department manager to translate the key points of the strategy into their own strategy and business plan towards 2020. It is evident that there are different translations. ED3 and SD4 who are from the same organisational community, share the same view on liveability as being a product, which should profit in the end.
Whereas SD1 (senior director) and for instance ET1 (Ethnologist) are from the same organisational community and share the same view on liveability, as being a process, where cross-disciplinarity and knowledge sharing is needed .

The different occupational cultures on management level has an impact downwards. Some have a structured silo mentality in Rambøll, while some have a agile cross-disciplinary mentality. The latter promotes liveability as being a tool to fulfill the strategic targets, whereas the first mentality has a hampering effect, due to fact that budget strictly steers on how employees should work and where.
This leads to another examination and discussion of how the strategy is deployed in Rambøll and how it is ascribed into the departments' business plans.

10 CONCLUSION

10 CONCLUSION

A liveability concept is needed for Rambøll, in order to make employees learn how to learn about other employees competencies and knowledge, through collaborative work.
With regards to our research question, it is concluded that co-design is found as the most applicable solution in relation to the concept of liveability. Co-design manages to provide basis for a:

- Collaborative arena, where different professions can be integrated and have the possibility to transfer, translate and transform knowledge.

which can enhance the;

- Holistic understanding of the term, by revealing numerous aspects of liveability through a workshop and particularly with the use of boundary objects.

Concluding that co-design is the most applicable solution, is based on the outcome from the empirical data from literature and Rambøll.

Through the historiographical analysis, it was evident to conclude that liveability is of a multidisciplinary nature. The initial investigations in literature since the 1950's, quickly showed that liveability was not defined by a single profession.
The fact that liveability is concerned about the condition of humans' lives, naturally makes an invitation to various professions, who can shed light on important elements , based on their educational knowledge.

It was clear to see that there was a coherency, between societal changes and the entrance of more professions. In the beginning, liveability was planned by architects, who neglected the human centric design approach, but as society transformed, professions as urban planners, geographers delete anthropologist and sociologists came into play. They addressed problems, which liveablity needed to contain and concern about. Sociologist were concerned about how humans behaved and thought in different social and cultural relations. Geographers pointed towards the problem of people moving from one place to another, changing the demographics of a place. Urban planners were concerned about amenities in the society, how a city space could serve the people optimally. These and many more professions had liveability on their agenda and used their own educational background and expertise to shed light on the 'gaps' in liveability. It can be concluded that liveability thereby invites for a holistic approach and in an organisational context, it would suggest for a cross-disciplinary approach.

The historiographical analysis did also lead to a visualisation of different schools of thought (modernism, post-modernism and functionalism), which had an influence on how architecture, urban planning and other areas with liveability, was perceived and performed. It provided a clarity in terms of why liveability shifted from being a non-human notion to a human centric notion.

To perform the desired concept for liveability, it was necessary to see liveability in an organisational context. The selection of Rambøll was twofold, firstly it was essential in terms of examining how liveability was seen in actuality and secondly as a justification for the conclusions we draw after analysing the literature.

Rambøll was seen as a good starting point, due to the fact that it is a multidisciplinary company involving many departments with different professions. It made it possible to examine liveability through various angles. Insights about the conception of liveability and work procedures were received from the different professions through interviews.
Liveability was not a novelty in Rambøll, emerging concepts as Liveable Cities Lab and the newly established "Liveable Building Concept" highlighted the necessity of thinking liveable, but without providing a mutual understanding of the notion, in the organisation.

The outcome of the empirical study did not only shed light on the diverse conception of liveability, it did also illuminate links to other organisational issues. The juxtaposition between the ideas of the identified schools of thought and the employees was beneficial, in the sense that it clearly provided a picture of cultural division in the organisation. The different occupational cultures prompted different views on liveability, some perceived it as a profitable product, others as an approach to every project. Though, the majority pointed towards collaboration as a solution in the approach to liveability.

Choosing co-design as an approach to make employees work together and subsequently involve users on later phases, was seen as beneficial for both the concept and for the employees. Workshops were introduced as the collaborative arenas, where professions from different backgrounds and cultures can be integrated through activities. Further it was concluded that boundary objects were seen as an important tool, to help employees learn how to learn about others' competencies and knowledge. This is therefore seen as an important aspect in terms of working with liveability, to understand and adapt to each others' expertises, thus the end-result is holistic.
It can also be concluded that in order to create successful boundary objects, one also need to create the space in which to try out and test it. Preferably in a repetitive and systematic way, over a period of time. The co-design process, introductory workshop and creation of liveability agents can be seen as a step in a needing longer re-

petitive process, towards creating a mutual understand of livability throughout the organisation.

Any concept, however it is troubleshooting or innovative, would have to get through the process of adaptation and acceptance, to become a true concept. This is concluded after acknowledging that the steering “silo” mentality in some occupational cultures on management level, has the power to hamper any co-design work. Strict budgets, time and competition can overrule the liveability concept as a stepping stone, towards meeting the targets in the latest strategy Winning Together, where client centrism is the focus.

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