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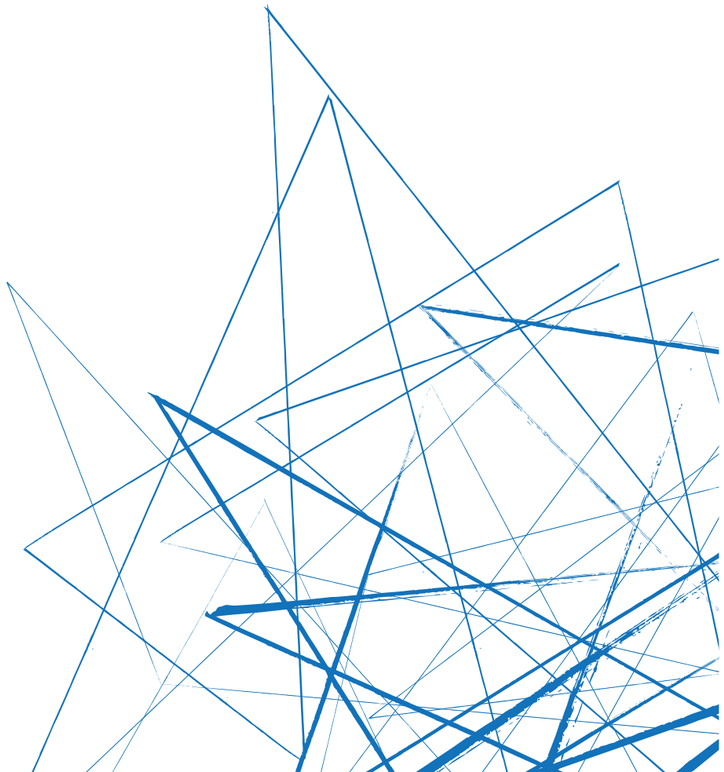
CROWDSOURCING AND THE ARCHITECTURAL COMPETITION AS ORGANISATIONAL TECHNOLOGIES



PhD Series 40-2017

Andreas Kamstrup

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Doctoral School of Organisation and Management Studies | **PhD Series 40.2017**

CBS COPENHAGEN BUSINESS SCHOOL
HANDELSHØJSKOLEN

Crowdsourcing and the architectural competition as organisational technologies

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The Doctoral School of Organisation and Management Studies (OMS) is an interdisciplinary research environment at Copenhagen Business School for PhD students working on theoretical and empirical themes related to the organisation and management of private, public and voluntary organizations.

It goes on like that, you know the job…
you're looking for narrative... uh... interrogate witnesses...
parcel evidence... establish a timeline...
build story... day after day...

Rust Cohle, *True Detectives*

Acknowledgements

First, thanks to Realdania and the Danish Architecture Centre for insisting on having doctorial research on a project. I have been happy and enriched to serve as a collective memory on what we could call an industry experiment. It goes without saying that without the good will and economic resources from Realdania this project would not have existed. Also, without the dedicated and curious people from DAC (Anna & Nina in particular) it would have been a completely different (in the bad sense) project to study. From the industry, I also owe many thanks to Nathalie Mossin, Mikkel Andreas Thomassen, Lennie Clausen, Lone Pfeiffer and Peter Hinsby. You have all contributed with unique, inviting and deep knowledge and curiosity beyond measures.

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Sharing office with you, Emil, has actually made me look forward going work every day. You are knowing, funny and competent. You can help me occupy my brain any day.

I almost got it done without reverting to clichés. But. I absolutely could not have done this without you, Trine! Mere lys, mere kærlighed. Mere lys, mere frihed.

Andreas Kamstrup
Valby, July 2017

Abstract

In this dissertation, I take interest in crowdsourcing and architectural competitions as I focus on examining how a crowdsourcing platform works in the building industry and how the practices unfolding on it relates to – and maybe mimics – architectural competitions. The platform is operated and situated in the building industry, where 'the architectural competition' stands as an institution for how to coordinate interactions between actors. I also take interest in an architectural competition setup where dialogue between architects and jury is part of the setup. In overall terms, the research project aims to contribute to understanding novel interaction practices in the building industry and the architectural world at large. The research is based primarily on ethnographic explorations and the results hereof is the article-based dissertation you have just embarked on.

The dissertation is structured in two parts, where the first contains most of the framework and plays the role of an extended reading guide to the three articles presented in the second part, which also contains the conclusion.

In the first part, I set the scene by asking the main research question: how crowdsourcing and architectural competitions technologies are organised to create answers in architecture and the building industry? To guide this main question, I also ask how crowdsourcing and architectural competitions can be examined as organisational technologies? In establishing both the empirical and conceptual background for the research project, I argue for and establish two zeitgeists: 'The digital imperative' and 'A competitive society'. I then present my empirical setup in detail, concluding with an elaboration of the crowdsourcing platform. In relation to methodological considerations I am inspired by Nietzsche's notion of 'philosophising with the hammer', but otherwise my ontological and epistemological beliefs are grounded in pragmatism. I have been doing approximately two years of ethnographic work, which consists of observations, interviews and participation. Before reading the literature to find conversations partners, I take a little detour to establish my notion of 'organisational technologies'. With this in mind, I read relevant literature on crowdsourcing and architectural competitions.

In the second part, the three articles are presented. In the first I ask 'What is open? When crowdsourcing meets the architectural competition'. This refers to the fact that openness

plays a significant role in both crowdsourcing and architectural competitions. With the use of affordances, I show that the platform successfully invites people to join, but that these crowd members begin to use the platform design in unexpected ways. In the second article called 'Moments of Valuation in Crowdsourcing', I examine the same platform this time to understand how winners are appointed. To do this I call on 'moments of valuation'. I establish two such moments and show how especially community management plays a surprisingly decisive role. In the last article ('Jury Boards at Work: Evaluation of Architecture and Process'), I leave the digital platform to examine a dialogue-based architectural competition. In this competition, the participating architect teams formally compete on both architectural quality and their ability to enter dialogue with the jury during the three workshops that constitute the body of the competition setup. By employing a situated perspective, the consequences of organising dialogue in this manner is unfolded.

In the conclusion, I sum up the findings and read across the articles and the framework to argue that both crowdsourcing and architectural competition technologies are organised to create answers in architecture and the building industry by installing a certain relationship between the central and the decentral. Even though this relationship is stabilised in different setups and include different forms of dialogue, they both include negotiations of competition briefs and assessment criteria. Before rounding of the dissertation, I propose advice to practitioners and outline areas for future research.

Dansk resumé

I denne afhandling interesserer jeg mig for crowdsourcing og arkitektkonkurrencer, og undersøger hvordan en digital platform designet til at bruge crowdsourcing virker. Platformen bliver drevet fra og er situeret i byggebranchen, hvor 'arkitektkonkurrencen' står som et fyrtårn for hvordan interaktioner mellem aktører i branchen koordineres. Derudover undersøger jeg også en arkitektkonkurrence hvor dialog mellem arkitekter og jury er en vigtig del af setup'et. Overordnet set søger forskningsprojektet at bidrage til forståelsen af nye interaktionspraksisser i byggebranchen og arkitektverdenen. Forskningen er primært baseret på etnografiske udforskninger og resultatet er den artikel-baserede afhandling du netop er begyndt på at læse.

Afhandlingen er todelt, hvor første del indeholder det meste af kappen og skal ses som en udvidet læseguide til de tre artikler, som bliver præsenteret i anden del. Anden del indeholder konklusionen.

I første del sætter jeg scenen ved at formulere mit hovedspørgsmål: Hvordan er crowdsourcing- og arkitektkonkurrenceteknologier organiseret til at skabe svar i arkitektur og byggebranchen. Til at guide dette hovedspørgsmål spørger jeg også hvordan crowdsourcing og arkitektkonkurrencer kan undersøges som organisatoriske teknologier. Ved at etablere både de empiriske og konceptuelle baggrunde for forskningsprojektet, etablerer jeg to tidsånder (zeitgeits): 'Digitaliseringsimperativet' og 'Et konkurrencebetonet samfund'. Herefter præsenterer jeg detaljerne i mit empiriske setup for at slutte med en udførlig præsentation. I forhold metodiske overvejelser er jeg inspireret af Nietzsches 'at filosofere med hammeren', men ellers er mine ontologiske og epistemologiske grundholdninger forankret i pragmatismen. Jeg har lavet ca. 2 års etnografisk arbejde som består af observationer, interviews og deltagelse. Inden jeg engagerer mig i litteraturen for at finde samtalepartnere, tager jeg en lille omvej for at etablere min forståelse af 'organisationsteknologier'. Med denne konceptualisering præsent, læser jeg relevant crowdsourcing og arkitektkonkurrence litteratur.

I anden del bliver de tre artikler præsenteret. Først spørger jeg 'What is open? When crowdsourcing meets the architectural competition'. Dette refererer til at åbenhed spiller en

vigtig rolle i både crowdsourcing og arkitektkonkurrencer. Ved at bruge 'affordances' undersøger jeg hvad der sker, når 'crowdsourcing' og 'arkitektkonkurrencer' mødes i praksis på en digital platform. I den anden artikel, som jeg kalder 'Moments of valuation in crowdsourcing' undersøger jeg den samme platform, denne gang for at forstå hvordan vindere bliver udpeget. Til dette bruger jeg 'moments of valuation'. Jeg etablerer to sådanne momenter og viser hvordan de overlapper hinanden, hvilket gør at platformens samlede evalueringsproces bliver ugennemsigtig. I den sidste artikel ('Jury Boards at work: Evaluation of Architecture and Process') forlader jeg den digitale platform for at undersøge relaterede processer i byggebranchen. Casen er en nyt arkitektkonkurrenceformat, som vi kalder 'proceskonkurrence'. Her konkurrerer de deltagende arkitektteams formelt på både arkitektonisk kvalitet og deres evne til at indgå i dialog med juryen i løbet af de tre workshop, som konkurrenceforløbet består af. Ved at bruge et situeret perspektiv udfoldes konsekvenserne af at organisere dialog på denne måde.

I konklusionen opsummerer jeg kort de tre artikler og læser på tværs af dem og kappen, for at svare at både crowdsourcing- og arkitektkonkurrenceteknologier er organiseret til at skabe løsninger i arkitektur og byggebranchen ved at installere et særligt forhold mellem det centrale og det decentrale. Selvom dette forhold bliver stabiliseret i forskellige setups og indeholder forskellige typer af dialog, så indeholder begge en forhandling af både konkurrenceprogram og bedømmelseskriterier. Inden afhandlingen afsluttes, giver jeg nogle råd til praktikere og skitserer emner til fremtidig forskning.

CONTENT

PART I

Part one of this dissertation contains initial manoeuvres. As it is an article-based dissertation this lion's share of the so-called framework is contained in this part. First the 'introduction' sets the scene of the specific interest and presents the overarching research question, and then the 'background' chapter draws the empirical and conceptual contours of the landscapes within which the dissertation operates. In the chapter on methodological considerations, I reflect on the ontology of my empirical material and how I have operated 'in the field'. In the last chapter of this first part, I read the relevant literature with help from the – to the occasion established – notion of 'organisation technologies'.

Figuratively speaking, the centripetal effort of this first part, as extended reading guide, is to build the scene on which the three articles can perform their solos.

Please note that I throughout Part I and in the two first articles in Part II use UK spelling. In the last article (and when quoting work written in the that tradition) I am using US spelling

PART I

CHAPTER 1 INTRODUCTION

The main purpose of this chapter is to introduce the research project, its specific interests and the overarching research questions. In addition, the scope of the dissertation is discussed and the structure is presented.

CHAPTER 2 BACKGORUND

CHAPTER 3 METHODOLOGICAL CONSIDERATIONS

CHAPTER 4 READING THE LITERATURE

Crowdsourcing and competition

> The digital platform is designed to spearhead the architectural competition and bring it into the 21st century by re-engineering the process of competition and making compatible with the latest technological and cultural developments […] We think crowdsourcing in the building industry is a very obvious match.
>
> Observation, 15 December 2011

The statement above was presented to me by my future employer as I interviewed for a position as a PhD researcher at the Danish Architecture Centre (DAC) in late 2011. I had responded to a call issued by DAC for PhD proposals, and I soon found myself being interviewed about the intended focus of my research project. From the call, it was clear that the project had to address a new digital platform that DAC had launched, but the scope of the research was negotiable. The statement above is key to my research project, as it frames my primary empirical case and the ambitions surrounding it. Prior to the interview, I had some knowledge of crowdsourcing and digital platforms, but I knew almost nothing about the building industry, and I had no idea how important that industry as a whole or the architectural segment in particular would be for my project.

* * *

This dissertation primarily focuses on crowdsourcing in the Danish building industry and on the digital platform Innosite. Here crowdsourcing is seen as an organisational phenomenon driven by and operated as a particular form of competition. I engage with findings and insights from organisation studies, branches of pragmatism, valuation studies and architectural research to learn how crowdsourcing coordinates practices, relates purpose to tasks, and (promises to) produce value through efficient innovation processes. However, to broaden my perspective and nuance my findings, I also zoom in on a different case, which is a novel architectural-competition format in which dialogue-based interaction is the working principle. Below in this chapter and in chapter 3 I will elaborate on how these two cases have been treated and what this allows the combined research effort to address.

'Crowdsourcing', a portmanteau of 'crowd' and 'outsourcing', was coined by Jeff Howe in a *Wired* article in 2006 (Howe, 2006). As shown in this dissertation, 'crowdsourcing' has come to cover a wide variety of activities. However, several stable identifiers seem to be present.

Crowdsourcing involves a central task giver (the outsourcer) and a decentralized group of people (the crowd) who are engaged in the task, online interactions between these two and an compensation structure (Estellés-Arolas & González-Ladrón-de-Guevara, 2012). As crowdsourcing can be seen as an outcome of the development of participatory digital and online technologies ('Web 2.0'), IT and technology scholars were among the first to study the phenomenon. They were followed by innovation researchers, as innovation with and through the crowd offered significant potential and interesting possibilities. Recently, organisation scholars have also taken an interest in the phenomenon, as it has organisational implications for those involved. This dissertation belongs to the latter tradition.

The architectural competition is a centuries old phenomenon (Lipstadt, 2003). In an architectural competition, an organisation (the 'client') that intends to initiate a building process invites architects – through a competition brief – to submit proposals for their vision of the building. Studies of architectural competitions have attracted both researchers and practitioners interested in the aesthetic outputs of competitions, as well as organisational researchers interested in how such competitions are organised and what that means for the parties involved. The architectural competition has proven useful for understanding how competition and competitive practices unfold (see, for instance Kreiner, 2012).

A simple Google search shows that *competition* has approximately one billion hits, placing it below *management* (2.5) and above *collaboration* (0.5), but on approximately the same level as *organisation* (1.1). A Google search on "architectural competition" results in significantly fewer hits (0.5 million), while *crowdsourcing* is somewhat more common but approximately within the same order of magnitude (8 million).[1] From this simple inquiry, we get our first glimpse of the domain: *competition* seems to be the "bigger" word, while both *crowdsourcing* and *architectural competition* are several orders of magnitude "smaller", which in this context simply means that fewer webpages include the words. This supports the intuition that the two latter terms are more technical, have more specific meanings and are not as widely used. Of course, this simple search says nothing qualitative about the mutual connection and interdependence between the terms. One journey on which this dissertation embarks is to

[1] *Crowdsourcing competition* results in approximately 10,000 hits. Both *architectural crowdsourcing competition* and *architecture crowdsourcing competition* result in approximately 100 hits. All of these searches were undertaken on 27 February 2017 on www.google.com.

examine how crowdsourcing can be explained using the vocabulary associated with competition, especially architectural competitions.

The setup

The dissertation is the fruit of a collaboration involving the Realdania Foundation (Realdania), the Danish Architecture Centre (DAC) and the Copenhagen Business School (CBS). Realdania funded the particular crowdsourcing platform, which it asked DAC to envision and operate. After consulting with several design companies, DAC chose to collaborate with the Bavarian design and innovation consultancy company HYVE, which is well-known for applying the principles from the 'open innovation' paradigm (Chesbrough, 2003). DAC and HYVE came up with the name *Innosite* together. The funding from Realdania also included a request for doctoral research into 'how the platform works' (observation, 13 December 2011). Realdania viewed the funding of the platform and the related research as a 'laboratory of how collaboration and competition could unfold in the world of architectural competition' (observation, 20 March 2013). DAC therefore published a call for a PhD proposal in which the doctoral research would 'serve as the collective memory of what happens on the platform and how this relates to other processes in the building industry' (observation, 20 March 2013). I answered the call to examine the platform and was eventually awarded the PhD grant. At my second interview, one of the interviewees said that Realdania and DAC saw the doctoral research as an 'opportunity to slow down in order to see hitherto unseen things' (observation, 15 December 2011). At CBS, a research community had developed an interest in understanding the building industry and the processes therein as organisational phenomena and I believed this could benefit my examinations of the platform. In Chapter 3, which covers the methodology, I offer a more detailed description of how I collected the 'data' and studied the platform.

The cases

Innosite was designed as an open-innovation platform. As I will discuss in Chapter 2, open innovation and crowdsourcing are two distinct but related concepts. The former is the focus of a stream of innovation studies, which argues that organisational boundaries have become more permeable and that this should be exploited in order to create more value (Chesbrough, 2003). The latter is a method for such exploitation – a method that works by engaging an online, organised crowd in tasks defined by the organisation. Innosite was an open-innovation

platform that used crowdsourcing as the main method of innovation. Innosite was operational from 2011 to 2015. In that period, it was used to host approximately 25 competitions. Most of those competitions lasted for eight weeks, and they all followed the same design. They were initiated when a competition brief was uploaded, after which registered members (the crowd) could begin to engage with the task, typically by uploading answers to the tasks known as 'ideas' or 'proposals'. After the eight-week competition period, a selection of proposals was presented to a jury who selected the final winner.

The secondary case of the dissertation is a dialogue-based architectural competition. As it unfolded in an area in Copenhagen owned by Carlsberg, it is termed the 'Carlsberg City competition'. In brief, the competition was designed to include continuous dialogue between participating architects and the jury board – and to make this dialogue a formal part of the evaluation criteria used to find the winner of the competition. Empirically, this case has another status than my primary case, as it is based on another researcher's ethnographic work. Conceptually, it plays an important role as it helps to both broaden, nuance and underline findings from the primary case, but also it helps me to demarcate my findings and to establish and reflect on what can be learned from my combined research effort and, not least, to whom my findings are relevant. This will be elaborated in the methodological chapter as well as in the conclusion where a section will be dedicated to discussing what it has meant to do cased-based research in this particular way.

Building a framework

As PhD student undertaking doctoral research in Denmark at some point one must decide to write either a monograph or an article-based dissertation. This is an article-based dissertation, that is, a collection of three articles on which I have been working somewhat simultaneously. Two of the articles are single-authored, while the last is co-written. The articles serve as the analytical core of the project. The rest of the dissertation, including this introduction and the chapters on the background, methodological considerations and the literature review, as well as the conclusion and summary, constitutes the 'framework'. The framework serves as an extended reading guide because it frames the three articles and offers provisional conclusions that situate the articles in relation to the overarching research interest. Moreover, it elaborates what I believe is entailed in scientific practices on a more general level. In this regard, the term 'frame*work*' implies an effort – if successful, the

framework produces a coherent research project by situating the three articles within a certain context and establishing a narrative that allows the reader to make sense of it.

My work on merging the articles and developing the framework has led me to reflect on what this work is and what it does or, in other words, on how meaning is established. I argue that the decision to write either a monograph or an article-based dissertation is far from a formal choice regarding form. Moreover, it is indeed not just about letting the research project or empirical material decide as a sort of non-political statement of necessity.[2] In the following, I elaborate what I believe it means to write up a framework and with that, what it means to write an article-based dissertation.

Writing and reading an article-based dissertation are activities can be described as a type of hyper-textuality (Aarseth, 1997). Hyper-textuality often stands in contrast to texts in which one finds a linear progression of meaning (i.e., from A to B to C). Examples of hyper-textuality are found in interlinked Wikipedia pages, computer games with different possible endings and certain explorative novels. A monograph is structured with progressive chapters in which new arguments build on those presented previously. In other words, a monograph allows for linearity in the construction of meaning. Conversely, an article-based dissertation has a more fragmented, hyper-textual character. Each of the articles contain independent arguments and therefore they cannot necessarily (only) be understood and read linearly. However, in practical terms regarding this dissertation, they will be read linearly. Therefore, the order in which the articles are presented in the dissertation matters. And what I will call 'junction points' as juxtapositions between the linear and hyper-textual comes to matter a great deal. Junction points are where the parallel tracks meet and meaning is assembled. The title is one such junction. The overarching research question is another: They are both points where the discrete insights from the articles are merged into an overarching meaning. Although a conclusion is arguably the most well-known of such points of intersection, the carving out of a literature review to establish conversations partners and maybe even a field in which a contribution will be made is momentous.

[2] As a naïve reading of the ANT mantra to 'follow the actors themselves' (Latour, 2005) could suggest.

The tying together of articles to create a meaningful whole, the presentation of an overarching research interest, the implications of necessity and progression – these are components of constructing a framework to achieve a balance between the whole and its parts, and between linearity and hyper-textuality. In this regard, we could say that the contribution of the dissertation's framework is not to develop an independent argument, as is the case in the individual papers. Rather, the framework builds a *dependent* argument, as it works to establish a line of reasoning that builds on the arguments found in the articles. This effort to write from the 'middle and outwards' (from the core analysis constituted by the articles) has been instructive and challenging. It has indeed required a 'centripetal effort' to establish the nodal points.

Given this elaboration of what it has meant for me to write an article-based dissertation and the possible effects of doing so in terms of producing overarching meaning, I now move on to presenting the research question that guides the project and the research interest.

Towards a research question and beyond

The dissertation focuses on crowdsourcing and competition as they unfold in the Danish building industry. As suggested above, this can be fruitfully examined if knowledge of the Danish building industry and architectural competitions is established. The given setup of the PhD project (the digital crowdsourcing platform) is situated in the building industry among architects, contractors, clients and engineers (to name a few of the most common actors). Therefore, their terminology, their modes of collaboration and competition influence how the examined crowdsourcing works. With this in mind, I ask:

How are crowdsourcing and architectural competition technologies organised to create answers in architecture and the building industry?

As implied in the opening quote there is a certain relationship between crowdsourcing and architectural competitions. This certain relationship might not – at first sight – render a traditional comparative analysis possible (Etzioni, 1975; Perrow, 1967) and the consideration of how to compare these two phenomena are addressed throughout the dissertation, both in the chapter on methodology, the literature review and in the conclusion as well as in the articles. With the phrase 'to create answers' I am stressing the purpose of the examined

technologies. Empirically, it can be broken down in three tasks which is: establish and communicate a challenge, generate proposals and select a winner. The word 'answer' is chosen rather than, for instance, 'solution' and 'innovation'. Regarding the first, the dissertation aims to make a distinction between 'answers' and 'solutions', where solution indicates a narrower, almost causal relationship between the posed problem and proposed solution. This will be unfolded in the literature review in Chapter 4. Regarding 'innovation', it is sometimes argued that both crowdsourcing and the architectural competition exist to foster innovation (and therefore implying that I instead should ask how the technologies are organised 'to create innovations'). As it will be addressed in the methodology chapter this understanding is too narrow, as not all output from either crowdsourcing or architectural competition are understood as innovations. Furthermore – on a more pensive note – it also implies the difficult question of intentionality and rationalisation: when is something *actually* an innovation. It may sound trivial, but I think 'answers' is the better word: as both technologies work to first formulate a challenge, there is always something to be addressed. Something to be a (potential) answer to. An answer can then in hindsight be deemed innovative. Using the word 'answers' evidently raises the question of 'to which questions posed by whom'? These questions are continually engaged with throughout the dissertation and will be addressed in the concluding chapter.

In the main research question, I suggest examining crowdsourcing and the architectural competition as technologies. This reflects my ambition to compare them without flattening out important differences. To address this, I ask the following sub-question:

How can crowdsourcing and architectural competitions
be examined as organisational technologies?

This question guides the 'dependent' argument of the framework and an answer will be given in the literature review, before it is picked up again in the conclusion. All three articles revolve around the competition, or rather around technologies to establish answers in architecture and the building industry through means of competition. The motivation for the sub-question is a desire to understand how such technologies are organised, as well as a desire to establish a common ground between crowdsourcing and the architectural competition. The approach

of ‘organisational technologies’ has occurred to me after looking at three articles collectively – it is not a notion used in either of three.

As previously mentioned, the core of the dissertation consists of three articles from which answers to the research question emerge. The two first articles examine how crowdsourcing works in the building industry. More specifically, the first article focuses on the role of openness as it is both a theme in innovation and the architectural competition. The second article examines the same platform, asking how winners are made. The third article leaves the digital platform to ask how a novel – but non-crowdsourced and non-digital – form of competition works. As mentioned, it is the combination of both studying the digital platform and an architectural competition, that open the scope of the research question. My research-ambition is to dig into concrete practices within the broader research interest. As Svenningsen argues, a deeper understanding often appears when analysing minor events rather than ‘abstract variable across a large population’ (2004, p. 18, my translation).

Outline of the dissertation

The remainder of this dissertation is structured as follows. In Chapter 2, I describe the background for the dissertation and, thereby, present my understanding of the world within which the research project has unfolded. It establishes the problematic situation that I take interest in or – with Dewey – it unfolds the ‘social tensions, needs, “troubles”’ (1938, p. 499) surrounding and pervading my cases. It points to two tendencies, which I refer to as *zeitgeists*, that play an important role in shaping my empirical setup: ‘the digital imperative’ and ‘the competition society’. Thereafter, I briefly unfold how three important organisations (Realdania, The Danish Architecture Centre and the Danish Association of Architects) have influenced my research. I then zoom in on two consequences of the zeitgeists’ interactions with these organisations, which I term ‘rethinking the architectural competition’ and ‘opening innovation’. The chapter concludes with a description of the digital platform that serves as the point of entry for my research. At that point, the reader should have a solid understanding of the empirical field in which my research has taken place.

In Chapter 3, I present methodological considerations and the concrete interactions. The chapter starts with a discussion of the role of philosophy and I begin to build a Nietzschean inspired approach on what doing (good) research means to me. To situate my research

epistemologically and ontologically, a very basic introduction to pragmatist thinking is given before I present my thoughts on ethnography and cases studies. Then I elaborate on the concrete interactions with and in my field. Hereafter, I elaborate how my secondary case has been established. Before I round off the chapter I reflect on some methodological challenges I encountered while doing the research, which I frame in relation to 'becoming expert'.

Chapter 4 is a combination of a theory section and a literature review, even though the latter is the focus. The first part has as theoretical overtones, as I continue to build on the approach developed in chapter 3: by drawing on pragmatism and STS inspired literature I build the notion of 'organisation technologies'. The second part of the chapter is then the more traditional literature review, where I aim to find conversations partners to guide my inquiries into the literature on both crowdsourcing and architectural competition.

Chapter 5 to 7 make up the analytical core of the dissertation. Chapter 5 is the first article, which is entitled 'What is open? When crowdsourcing meets the architectural competition'. The article examines how openness – being both a relevant theme in crowdsourcing and architectural competitions – plays out on the Innosite platform. By drawing on Gibson's notion of affordances (Gibson, 1979) it carves out four characteristics: 1) the platform has very low barriers to entry; 2) it is relatively easy to participate in the competitions; 3) there is virtually no head-to-head interaction between the crowd members and instead 4) they begin to appropriate each other's work. The chapter also includes a short introductory text.

Chapter 6 follows the same structure as Chapter 5, as it opens with a short framing of the following article. The article is termed 'Moments of valuation in crowdsourcing', and it examines how winners are found in crowdsourcing. It does this by first establishing a relevant typology of crowdsourcing and thereafter focus on 'crowdsourcing for the best idea'. From valuation studies the article draws on 'moments of valuations' (Stark & Hutter, 2015). In the analysis two such moments are established and it is shown how they co-exist in both the jury meeting room and on the digital platform. Unsurprisingly, the jury members make the formal selection of the winner, but before that the community manager has played as surprisingly decisive role.

In Chapter 7, the third article is presented. This article goes beyond the digital platform to examine how another novel competition setup has unfolded. The title is '*Jury board at work – evaluation of architecture and process*' and it examines a so-called 'process competition' where one of the formal assessment criteria concerns the capacity to collaborate with the client organisation. This is being tested practically in a series of workshop and it is shown how 'tricky questions' in the dialogue between jury and architectural team create 'problematic situations' in which the meaning of the assessment criteria is (re)negotiated. This is interesting because the competing participants (i.e. the architectural firms) are then part of ascribing meaning to the criteria according to which they are evaluated. The article draws on a situated perspective on plans (Suchman, 1987) to understand how the architects' visualisations open up for unforeseen negotiations.

Chapter 8 offers concluding remarks including elaborate answers to both main- and sub-research questions. Drawing on the notion of 'organisational technologies' established in Chapter 4, the dissertation concludes that even though important differences exist, both crowdsourcing and architectural competitions are organised to install a certain relationship between the central and the decentral. Also drawing on 'organisational technologies', the dissertation lists a number of contributions to both literature(s) and practice. Before a brief outro concludes the dissertation, some suggestions for future research are offered.

PART I

CHAPTER 1 INTRODUCTION

CHAPTER 2 BACKGROUND

The main purpose of this chapter is to provide an overview of the landscapes in which the digital platform was designed and operated. To do so, zeitgeists are established and I elaborate how these matter in the building industry. Last, the crowdsourcing platform is introduced.

CHAPTER 3 METHODOLOGICAL CONSIDERATIONS

CHAPTER 4 READING THE LITERATURE

This chapter aims to present notable ideas and key actors that have influenced my research. I call the chapter 'Background' because it aims to establish an understanding of the context in which my project unfolded. I am inspired by Law's notion of 'hinterlands' (Law, 2004) as a way of talking about the 'out-there':

> The idea of 'structure' usually implies not simply a generic or primitive version of out-thereness, but additional commitments to independence, anteriority, singularity and definiteness. To talk about 'structure', then, is probably to imply that the real is out-there, in definite form, waiting to be discovered.
>
> (Law, 2004, p. 140)

The article-based dissertation format suffers from a limited ability to unfold context[3] in the articles themselves. However, context is of substantial relevance when the aim is to understand the overarching research interest as well as the proposed research questions and associated answers, especially when the author adopts a situated, context-dependent perspective.

I begin by discussing two tendencies: the 'digital imperative' and the 'competitive society'. I present these tendencies as zeitgeists, or spirits of the age, and I flesh them out by drawing on academic research, articles in the press, political comments and empirical practices. After this presentation of the broader context, I describe three important industry organisations around which this research project has gravitated: The Danish Architecture Centre, where I carried out my research; Realdania, which funded my research, and has a strong interest in developing the building industry and the processes that organise it; and the Danish Association of Architects, which designs and organises the processes that constitute the architectural competition. I then narrow the focus by highlighting two of the consequences of the zeitgeists meeting the industry organisations. As with the zeitgeists, these are presented as a collection of theoretical and empirical points and insights. I term these two consequences '(re)thinking the architectural competition' and 'opening innovation' respectively. After these are presented the digital platform is unfolded, which concludes the chapter.

[3] Acknowledging that 'context' is a laden – an possibly problematic – word, I still prefer to use that word. However, I understand it in alignment with Laws 'hinterland'.

The aim with this thorough and 'text-heavy' presentation of context is as already hinted at as my way of establishing the 'problematic situation' which my inquiry aims at if not resolving then strengthen the understanding of. I have chosen to unfold two zeitgeists. This is not a given, but I believe these two together span the tendencies I wish and need to highlight. Also, it is important to note that I do not imply a simple linearity and causality between zeitgeists, the industry organisations, the consequences and finally the digital platform. Rather, I believe that for instance the 'consequences' also works back, effect and add to the zeitgeists.

Zeitgeist: The digital imperative

In the past 50 years, we have witnessed the emergence and widespread adoption of digitalisation,[4] which has had an immense influence on personal life and work processes. Many office tools, including calendar and coordination applications, databases, document organisers, direct-communication applications, logistics tools, optimisation methods and inventory-management tools, have been digitalised. More broadly, entertainment, communication, public-sector interaction and information seeking have been subject to digitalisation. Business plans and strategies to harvest the fruits of the digitalisation of product/services (e.g., ease of multiplying digital products, ease of accessing digital services worldwide), the digitalisation of infrastructure (e.g., seamless and transparent organisation, effective and fast communication), or combinations thereof are increasingly common. The umbrella notion of 'a digital revolution' is sometimes used to account for this shift in technological innovation and the subsequent change in work practices (Brynjolfsson & McAfee, 2011). Others talk about the information age or the network society (Castells, 1996), the virtual society (Woolgar, 2002), the digital age (Hood & Margetts, 2007), or Industry 4.0 (Brettel, Friederichsen, Keller, & Rosenberg, 2014) depending on the focal phenomena and concepts.

However, this dissertation does not aim to describe technological advances. Rather, it aims to elaborate and sketch the tendency to 'digitalize or drown' (Schreckling & Steiger, 2017, p. 1). This is the zeitgeist. An 'imperative' is defined as either 'the expressive of a command' or 'something not to be avoided' (Merriam-Webster, online). In philosophy, the imperative was

[4] I follow Schreckling and Steiger (2017) in arguing that digitisation is the act of moving from analogue to digital form, while digitalisation is the broader notion of organising according to the technical possibilities of digitisation.

immortalized by Kant (2005 [1785]), who wrote about the categorical imperative as a commitment to guiding (moral) actions. In the following, I sketch out my view of how the digital imperative guides actions.

Anticipating through promises and necessity

Arguments for digitalisation are wrapped in promises. Accessibility, modularity, speed, participation, decentralization, empowerment, transparency and efficiency are among the traits commonly highlighted by proponents of digitalisation (MacDonald, 2014; Rainie & Wellman, 2012; Rheingold, 2012; Shirky, 2010). These promises are often framed as necessities in the sense that there is supposedly no real option to say 'yes' or 'no' to digitalisation – the firm cannot survive without a social media strategy, the daily operations cannot function without a digital task manager, best friends from high school cannot reunite without Facebook, and an individual cannot be a citizen if he or she does not have an email account to interact with the public sector.

In relation to digitalisation, anticipation is not new. For instance, the environment of the 1990s was anticipated through visions of paperless offices, network printing, remote workplaces, telecommuting and file sharing. Around the turn of the millennium, the forecast words were 'search engines', 'web shops', 'virus protection', 'mobile technologies' and 'wireless technologies'. Today, the future is folded into such phenomena as big data, the Internet of things, robotics, augmented reality, artificial intelligence and algorithmic design. As consumers and citizens, we derive impressions about the future through these notions. We could say that the digital imperative fuels a progressive world view, as it offers newness as a constant (re)formulation of both potential and necessity. Moreover, this future appears to hold more accessible, more democratic, more empowered, more efficient, more transparent, faster and richer potential, which is just waiting to be unlocked.

The Danish Agency for Digitization works to 'speed up the digitisation processes required to modernise the Danish welfare society' (Digitaliseringsstyrelsen, 2017a). In the organisation's view, doing so requires innovative thinking, dialogue and courage. In its attempts to accomplish this task, the Agency uses 'strengthened efficiency' as its baseline. Recently, the Agency released a *cross ministerial digital strategy 2016-2020* (Digitaliseringsstyrelsen, 2017b), which outlines the goal of ensuring high quality, easy usage and good opportunities

for growth with a certain focus on safety and trust. In the report's conclusion, an argument is made that the future is changing dramatically, unpredictably and rapidly, which will call for unprecedented agility in the years to come (Digitaliseringsstyrelsen, 2017b). These thoughts are echoed by the European Commission in its priority project 'Digital single market', where it is argued that 'regulatory walls should be teared down' and that it is time to move from 28 markets to a single digital market (EC, 2017). The main argument is that digitalisation 'could contribute €415 billion per year to our economy and create hundreds of thousands of new jobs' (EC, 2017). The word 'could' illuminates the anticipatory aspect.

The promise of the digital imperative is clearly evident in the coupling of big data with the dreams of (big) business. As noted by Copenhagen Solutions Lab, a public non-profit agency working to 'make Copenhagen a smart city' through such projects as making (big) data collected in and by the municipality of Copenhagen available, 'it is extremely hard to find collaborators who actually have skills and a plan for making use of big data […] I have met so many entrepreneurs who want to create business out of big data' (observation, 5 December 2015). Google's immense economic success has prompted a focus on big data both as an area for doing business (Brown, Chui, & Manyika, 2011) and as a technology that anticipates and performs in certain ways (Flyverbom, Koed Madsen, & Rasche, 2017; Manovich, 2012).

Collapsing innovation and optimisation

When it comes to understanding how companies and organisations grow and develop in terms of generating value in the broadest sense, both academia and business traditionally distinguish between efforts related to daily operations and routines, and efforts related to research and development. This distinction can be framed in many ways. For instance, with regards to organisational learning, March (1991) proposes the twin concepts of exploration and exploitation. In innovation studies, a similar dynamic is seen between the notions of radical and incremental innovation (Dewar & Dutton, 1986; Ettlie, Bridges, & O'keefe, 1984). I argue that the digital imperative promises to close the gap between processes of innovation and processes of optimization by allowing us to have both at the same time.[5]

[5] This is not to be confused with a pragmatist argument of disregarding pre-given categories to look for effects or Actor-Network Theory driven arguments about not accepting 'dualistic distinctions' (Latour, 1993). The decisive factor is that these approaches would question the categories, while the digital imperative displaces or collapses them.

An interesting example is found in healthcare, where demands for both development and efficiency are notable. Building on her dissertation work, Vikkelsø (2005) shows how the introduction of the electronic patient journal occasions such a redistribution. Vikkelsø writes that in the 'contemporary atmosphere of optimism about and trust in information technology, significant resources are dedicated to developing, commissioning and combining electronic patient journals at hospitals' (Vikkelsø, 2004, p. 16, my translation). She goes on to note that there has been a shift from asking *why* we should have electronic patient journals to *how* and *when* we will have them. Two decades ago, the electronic patient journal was framed as the solution to many of the challenges faced by large institutions, including efficiency issues, collaboration problems, accessibility aspects and the lack of inter-organisational communication. In Denmark, somewhere between one and two billion Danish kroner was invested in developing such journals (Nielsen, 2001). Today, the same discussion has emerged again, as a new digital healthcare platform is being introduced to further develop the electronic patient journal. This platform engages with the same organisational issues as the original electronic patient journal (Sundhedsplatformen, 2017). In many ways, this new healthcare platform can be understood as the electronic patient journal 2.0. In this development, we see a defining characteristic of the digital imperative – a new version or an upgraded, better-functioning model is always a possibility. I argue that this digital modularity, which is also called *versioning* (Shapiro & Varian, 1998) or *patching* (Newman, 2012), is new. Upgrades are always possible through downloading software or investing in new hardware. At the very least, the proliferation of digital technologies has made this a highly relevant organisational phenomenon.

These tendencies give rise to a number of questions: how does a digital technology stage itself (i.e., which necessities does it install and which promises does it make?) What does the technology deliver and which arguments are made? What is (supposedly) made obsolete? More practical questions also emerge: how does a particular digital technology work in relation to existing technologies? How does the technology work with and influence other organisational actors or practices?

Zeitgeist: A competitive society

The second zeitgeist relates to competition and competitiveness, and to how struggles to be the best or the winner have taken a pivotal place in society. In an expansion of the notion of

competition, sports contests, education, career, war and even evolution have been linked to competing for prizes, such as honour or access to scarce resources. For many, the meaning of 'competition' is intuitive. For example, we know what it means to compete from soccer matches, board games, computer games and popular television programs. It is therefore not particularly surprising that the dictionary tells us that to compete is 'to strive consciously or unconsciously for an objective (as position, profit, or prize) or to be in a state of rivalry' (Merriam-Webster, online)

Competition as means to innovate and optimise

Adam Smith brought competition into focus when he argued that healthy competition was one of the prime reasons for and causes of the wealth of nations (Smith, 1776). In the aftermath of the industrial revolution, he studied trade, the organisation of work, market behaviour and the individual actor's role. Smith was on the war path against the very large business owners who dominated entire industries, which he termed 'the wretched spirit of monopoly' (Smith, 1776, p. IV.ii.21). In Smith's view, this was a concrete threat to a wealthy society because monopolies could sustain an unnaturally high price that was above the market price and, therefore, pocket a *supernormal* profit (Kurz, 2016). On the basis of a common-sense understanding, Smith viewed competition as an almost chivalrous rivalry between two or more businessmen (Rothbard, 1961) and he suggested that competition was the best possible way to organise on a societal level.

Since Smith's ground-breaking work, competition has continually been in focus. In terms of economics, competition has traditionally been viewed as a type of organising that secures the best society by ensuring low prices, flexible labour markets and high work morale. Since the introduction of the American Sherman Antithrust Act from 1890, western societies have continuously focused on securing a competitive environment, and worked to inhibit cartels, illegal trusts and monopolies. Recently, for example, we have seen the EU order Apple to pay up to EUR 13 billion to Ireland due to illegal benefits gained from not having to pay proper taxes (European Commission, 2016). In Denmark, the Competition and Consumer Authority's main vision is to create 'growth and consumer welfare through well-functioning markets, where businesses compete efficiently on all parameters' (Konkurrence- og Forbrugerstyrelsen, 2017). This is a relevant example of the recurring focus on competition as an organising principle.

Business strategist Michael Porter has unfolded a research programme aimed at understanding why and how some firms become more successful than others. In his magnum opus, 'The Competitive Advantages of Nations', he argues that when firms cluster in a region with an environment that supports productivity, their competitiveness increases (Porter, 1990). Porter says that competitive advantages cannot be causally linked to either a nation's infrastructural conditions or the clustering of successful organisations. Instead, both of these are preconditions for high performing, highly productive firms. One of the basic ideas in such clustering is that each individual firm will be pushed to organise efficiently and to innovate. In this perspective, competition is viewed as an organisational solution. Whether the organisation optimises, cuts costs or innovates does not matter as such. What matters is that competition pushes the organisation to take the necessary steps. According to some contemporary scholars, Porter's influence cannot be overestimated, as his ideas have been read and implemented by presidents, industry leaders, think tanks, policy makers, advisors and business consultancies (Davies & Gane, 2013).

In the Danish context, political scientist Ove Kaj Petersen has introduced the notion of 'the competition state'. Petersen examines how the Danish public sector has transitioned from a welfare state to a competition state (Pedersen, 2011). He does so by showing how government practices, agendas and documents change in terms of rhetoric and success criteria. In an interesting analysis of the 'government 2020 working program', Pedersen shows that the program's goals are dominated by a competitive logic. The first goal is that 'Denmark must be among the 10 richest countries in the world', while the fourth goal is that 'at least one Danish university must be in the European top 10' (Pedersen, 2011, p. 239, my translation). All ten goals are formulated using the same logic, and they all point to comparative and competitive success criteria. They are comparative in the sense that they do not set concrete, measurable goals. Instead, they define success in relation to something else. They are competitive in the sense that they imply that Denmark should be 'near the top'. For Petersen, the backdrop for Danish society's development into a competition state is the ideology and beliefs contained in notion of neoliberalism. In its original formulation, neoliberalism argues that the state should take an active role in creating optimal conditions for free trade and deregulation through exposure to competition and contestable markets (Eucken, 1992 [1939]; Hayek, 1948). Today, 'neoliberalism' is used as a broad catchphrase by

critics of contemporary societal conditions. This is evident, for instance, in the Foucault-inspired tradition of identifying neoliberal governmentalities (Dean, 1995; Harley, 1989). In a unpublished draft Gane (n.d.) argues that competition is the key normative principle of neoliberalism, and that this principle claims no universality and must be examined in terms of its particular development and practices.

From competition to individualization

In the wake of the recession initiated by the housing bubble in the United States (Schwartz, 2015), a renewed focus has emerged on how concepts and implementations of competition influence society. Mirowski (2013) argues that the crisis primarily worked to reinforce ideas of individualisation, competition and economisation. In this light, Espeland and Sauder (2007) show how measuring technologies (i.e., ranking systems for law schools) work in reverse by influencing those that are measured and making them conform to the criteria used to construct the measuring technologies. For Espeland and Sauder (2007), the premise is that as humans are reflexive and as organisations are always constituted of humans, organisations are also reflexive. Espeland and Sauder (2007) make a convincing point in demonstrating how ranking technologies affect both individuals and collectives.

In a similar effort to examine how (competition) technologies influence individuals, Willig argues that 'public servants, such as nurses, teachers, police officers and social workers, now compete with each other, with the municipality and with the department next door. They do not feel able to express themselves critically because doing so will expose them as *competitively weak*' (Willig, 2014, my translation). Willig (2014) also suggests that the competition state thrives on performance measures, accreditations, standards, procedures and documentation, and he claims that the modus operandi of such competition and management technologies is individualisation. Research in a wide range of areas, including critical management studies, human resource management and industrial psychology, has examined how competitiveness moulds subjectivity (i.e. Flecker & Hofbauer, 1998; Fleming & Spicer, 2003; Willmott, 1997), often through 'entrepreneurial subjectivity' or freelance work (Storey, Salaman, & Platman, 2005; Terranova, 2000).

A freelancer is a worker with a limited contract, which gives rise to an organisational focus on the tension between the permanent and temporary (Stjerne & Svejenova, 2016). In recent

years, there has been a tendency to employ an increasing number of workers through this type of contract. In the EU, the number of freelancers grew by 45% between 2004 and 2013 (Leighton & Brown, 2016). In the US, a 2014 report concluded that approximately 53 million Americans, or 34% of the workforce, were working as freelancers (Horowitz, 2014). In this report, four in ten (more than 20 million people) had 'done an online freelance project, meaning they found and completed the gig entirely online' (Horowitz, 2014, p. 7). Not surprisingly, the report also found that young workers were the most active freelancers, which implies that the numbers will rise in the future. These developments illustrate how competition has helped atomise the workforce, as competitiveness has transitioned from being between companies to targeting individual workers to a much higher degree.

Given my interest in organisational issues, several questions arise. For instance, who is competing? What are the goals and prizes for which they compete? How are they competing? How is the competition organised? What are the consequence of this organisation and who benefits? In combining the two zeitgeists, it becomes relevant to ask how competition and digitalisation work together to produce new organising effects and new organisational dynamics. In this light, I now present the actors operating in and between zeitgeists with the aim of balancing promises, necessities and expectations.

Industry organisations: DAC, Realdania and the Danish Association of Architects

The Danish Architecture Centre (DAC) was established in 1985. Since 2007, it has expanded substantially in both size and scope. Over the years, it has grown to approximately 70 employees (including freelancers and students) ranging from architects, engineers, craftsmen, communication professionals and visual artists to humanists and people with commercial backgrounds. DAC envisions itself as Denmark's leading centre for the development of 'top-quality educational projects related to the built-up environment as a whole' (DAC, 2017a). It aims to host exhibitions and conferences, and to run projects commissioned by large foundations, the state, municipalities and other clients. The title of Danish Architecture Centre implies a certain affinity for architecture and architects, and the relevance of this implication is evident in practice. For instance, DAC coordinate the Danish contributions to the Venice Biennale of Architecture, and most of the exhibitions on show in Copenhagen are usually either curated in collaboration with leading Scandinavian studios (i.e., COBE, Snøhetta or BIG) or developed as tributes to influential architects, such as Zaha

Hadid or Mies van der Rohe. However, DAC also takes an interest in other actors in the building industry. By organising talent programs, facilitating exchange groups and hosting seminars, DAC also ambitions to be regarded as an industry platform through which architects, craftsmen, engineers, contractors, students, urban planners, clients and entrepreneurs meet. In recent times, DAC has demonstrated an interest in programmatic matters, and in how the city and the built environment as a whole are organised. This shows, for instance, in DAC's development and organising of the 'strategic urban governance' program (DAC, 2017b), which is a network of high-level city officials and bureaucrats facilitated by DAC. In addition, exhibitions and events, such as 'let's play' (DAC, 2017c), 'co-create your city' (DAC, 2017d), 'digitally disturbed' (DAC, 2017e) and 'update – making the city smart' (DAC, 2017f), address structural and organisational matters in the building industry and among actors in the city. In short, DAC focuses on exhibitions, events and initiatives targeting the industry at large. Its ambitions are to promote collaboration among different professions within the industry and to challenge the industry's traditional boundaries through projects.

Realdania was founded in 2000. Its charter shows that it invests in and supports architecture and the built environment through three focus areas: cities, buildings and architectural heritage. Realdania runs five programmes, one of which is 'Innovation in Construction, that aims to promote innovation in the construction sector to enhance the quality of life for everyone through the built environment and to secure a better and more sustainable environment' (Realdania, 2017a) This programme has had a long-standing tradition of shifting the focus toward innovation by financially supporting knowledge projects. One example is the now defunct 'Centre for Management Studies of the Building Process' (CLIBYG, 2017). Another was a case-study program aimed at developing and promoting studies of the best innovative projects within the industry. On the bases of findings from the case-study program, Realdania decided in 2011 to fund three digital platforms – including the platform in focus in this dissertation – designed to support entrepreneurship and knowledge sharing.

The Danish Associations of Architects (DAA) has also played a part in my research, not through close encounters but more as an institutional actor, as it influenced the setup from afar. In the Danish building industry, DAA plays an authoritative role as an institution that offers guidance and counselling to potential contractors on how to choose an architectural-

competition setup that legally, economically, organisationally and innovatively works to ensure the best possible output. DAA should not be confused with the architects' labour union, as it is a political organisation that lobbies on behalf of the architectural profession. On its webpage, DAA presents the 14 most common formats for architectural competitions (DAA, 2017a). These can be arranged according to several dimensions, such as open/invited, anonymous/cooperative and realisation/idea generation, or more technical dimensions. DAA argues that these different formats offer different potential. For instance, many in the industry agree that an open competition allows young architects to showcase their abilities, while an invited competition is economically and organisationally less demanding for the potential client (Rönn, 2012).

Challenges in the industry

The architectural competition can be seen as an answer to empirical questions of how to balance various needs or 'matters of concern', such as optimization and efficiency on the one hand and creativity and innovativeness on the other (Kreiner, 2010, 2017). Others ask what the *competitive advantages* of the architectural competition are with regards to alternative means for the contractor to find the right partners and the right project (Smith Innovation, 2017a) and continue to ask 'how possibilities for dialogue and selection can be made in early phases without compromising needs for fairness and efficiency' (Smith Innovation, 2017). If we widen the scope from the architectural competition to industry collaboration as a whole, we find arguments that the building industry lacks systematic coordination (Thomassen & Vind, 2009). In the digital realm, one proposed response to this lack of coordination is the Building Information Modelling (BIM) system, which is a online computer program on which digital representations of the physical components used in a given building process are stored. When data is available on a central server – or digital platform – multidisciplinary and even cross-industry collaborations are expected to run more smoothly because all involved actors can access the same data (Azhar, 2011; Plesner & Horst, 2013). Research has shown that digital objects used in this way can 'solidify and make explicit organisational and cultural difference between project participants' (Neff, Fiore-Silfvast, & Dossick, 2010, p. 556). In other words, working with BIM models to make collaboration between actors more efficient can actually reinforce differences, thereby complicating the intended cooperation. In this regard, DAC, Realdania and DAA take interest in technologies that aim to support

collaboration and make multi-disciplinary work possible. As mentioned, my research project springs from this ambition.

A recent example of collaboration and innovation in the industry was found in the Copenhagen Municipality's announcement that it would place tenders for public schools, cultural centres and kindergartens into one framework agreement (Politiken, 2017a). The arguments for this move were based in economic rationality and the demand for efficiency, as the municipality could lower its costs by 10 percent. The Danish Association of Architectural Firms complained that this move would create unfair competition and that aesthetic quality would be the first victim because such a framework would not allow for 'the competition and innovation that guarantees high-quality buildings' (Politiken, 2017a). However, a leading innovation company supported the plan, arguing that such a framework would actually support more innovation and enhance building quality because long-term collaboration between client organisations and building teams would be possible. Such long-term collaboration allows for repetition and learning, which are the bases of innovation and better aesthetics (Smith Innovation, 2017b).

Some actors who are concerned with the development of the building industry argue that such issues as innovation, efficiency, fairness, dialogue, collaboration and competition are important concepts. Others have hinted that the interrelatedness of these concepts may not be straightforward or represented in traditional dichotomies. Therefore, in the remainder of this chapter, I explore responses to these challenges suggested by the industry.

Consequence: (re)thinking the architectural competition

The Scandinavian countries have a long tradition of developing new architectural competition formats in terms of their setup, design, process and management. As mentioned, DAA catalogues 14 different formats, but the organisation argues that many more are possible in practice, as a competition can be tailored to the given circumstances and the needs of the potential client. Many dimensions can be used to classify competitions. As mentioned some of the most common are open versus invited, idea generation versus realisation and anonymous versus cooperative. It has been argued that architectural competitions can be seen as the entire profession's research lab and that, for instance, the open-competition

format has led to the establishment of many of the most important architectural-drawing offices in Denmark (Dirckinck-Holmfeld, 2016, p. 237).

The architectural competition can be traced back to ancient Venice, where merchants built imposing and pithy domiciles in displays of superiority. Some argue that the architectural profession grew out these organised interactions between designers and clients in the Italian city-state (Lipstadt, 2003). Throughout the renaissance, industrial age and modern times, architects and clients have developed multiple, complex forms of interaction that have sought to catch the complex relations among the need for new and imposing buildings, the effective outsourcing of tasks, innovative processes and the use of new technologies. These early interactions have arguably help to form professions such as architects, clients, contractors and builders. The architectural profession is indeed built and institutionalised around the architectural competition, and few other professions are so deeply entrenched in the competition format. In the Danish context, it is commonly accepted that the establishment of an organised approach (i.e., the institutionalisation of the architectural competition) helped develop Danish architecture to the high standard for which it is known around the world (Dirckinck-Holmfeld, 2016).

As mentioned above, DAA is the authoritative institution when it comes to organising and (re)thinking the architectural competition, as it has been since its establishment more than a century ago. However, 'architect' is not a protected title in Denmark, which means that anyone can call himself or herself an architect in both title and function (DAA, 2017b). This accentuates the question of what counts as an architectural competition. I adopt a pragmatic understanding, which I frame along the following lines: 'if it walks like an architectural competition and talks like an architectural competition, it probably is an architectural competition'. All humour aside, this means that I do not have a categorical definition of what constitutes an architectural competition. For instance, I do not rely on a list of necessary conditions or merely make reference to the views of DAA or other central actors to define what or how such competitions should work. Rather, I believe that an architectural competition occurs when a central actor asks a selection of people for their responses to a given architectural challenge. This means that not only the architectural competition as defined by DAA counts, but also that the collected practices and effects of an event determine whether it is an architectural competition. In practice, this strategy means that I look for

traditional components, such as competition briefs, assessment criteria, types of prizes, interaction between task givers (clients) and task takers (architect teams), competition setup and jury board, even though these components may be termed differently as they unfold in practice. In short, I examine how the process is organised.

Two brief examples of novel architectural-competition setups conclude this section. They serve to illustrate how some of latest iterations – or innovations – of dialogue-based competitions work, where 'dialogue' refers to a setup that integrates dialogue into the process. These two examples have different views on how to make use of such dialogue. The first, which was developed and tested during the development of a high school in the Ørestaden area of Copenhagen, was documented by Kreiner and Jacobsen (Kreiner & Jacobsen, 2013). In this competition, the participating architect teams had complete knowledge about all other participants and their contributions. The process was designed as a series of open workshops, during which the teams presented their ideas in front of the jury, experts and other teams (Kreiner & Jacobsen, 2013). An argument might be made that this type of open dialogue would be likely to make suggestions converge or become 'homogenised', so that few exceptional solutions would be presented. However, in a defining moment (i.e., the placement of a public library) Kreiner and Jacobsen (2013, pp. 152–155) show that interpretations of dialogue and feedback solidify differently among the different architect teams, resulting in one team proposing a new solution that is deemed optimal. This, in effect, renders the solutions presented by the other teams suboptimal even though they had followed the recommendations they had received.

The second example is an interview competition in which the client organisation – Realdania – wished to find an architect for the highly prestigious BLOX building, which was to be the home of DAC and the Danish Design Centre. In its call, Realdania explicitly stated that it was 'looking for an architect not a project and, in this sense, this is no ordinary competition' (Blox, 2017, *my translation*). Realdania further elaborated that it wanted a 'highly qualified and internationally recognized architect' (Blox, 2017, *my translation*). As such, Realdania designed a process in which it first presented a programme through which all architects could apply for prequalification. From the applications received in the prequalification round, Realdania selected three for a second round, to which it also invited three other architects to participate. In this second round, the six architects presented their visions in an interview

(without any models or concrete project plans), after which the winner was chosen (one of the invited architects). Realdania used this process as a way to balance aesthetic potential with efficiency needs. According to Realdania, an interview format in which the architect does not present concrete plans has an advantage – 'the architect, in collaboration with us and the other advisors, can play an active part in the project's entire programming' (Blox, 2017, *my translation*).

The above discussion illustrates how dialogue can be organised and that dialogue can mean different things in architectural competitions. This (re)thinking of the architectural competition relates to my project because the crowdsourcing and competition technologies I examine include various elements of dialogue.

Consequence: Opening innovation

Another answer to the challenges faced by the building industry is sought by introducing more openness among actors and across the industry, and by transcending traditional industry borders. Along with the innovation of processes to make them more efficient and ensure better results, the open-innovation paradigm has intrigued central actors.

Open innovation was originally defined by Chesbrough as 'as a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology' (2003, p. XXIV). This definition emphasises the difference between *inside* and *outside*. Chesbrough distinguishes between the open paradigm and the closed paradigm, where the closed paradigm seeks to control R&D efforts by keeping them within the organisation. In contrast, the open paradigm not only seeks to outsource R&D but also to operate with an aggressive intellectual property strategy (Rivette & Kline, 2000). The prescriptive 'should' emphasizes the hierarchical status between the open and closed paradigms, where the open paradigm is suggested as the best solution.

Some researchers argue that 'open' is a vague concept that needs elaboration and clarification (Dahlander & Gann, 2010).[6] More critical voices note that the open-innovation paradigm is merely 'old wine in new bottles' because companies have always operated within the practical challenges of when to be open and when to be more closed. These critics suggest

[6] In Chapter 5, I examine 'openness' on Innosite.

that the proposed binary dichotomy is false (Trott & Hartmann, 2009). Open innovation plays a role in my research because it was important for DAC and Realdania when they were considering ways to address the challenges of the industry.

Open innovation is related to the open-source movement. Raymond (2001) meticulously accounts for the development of the open-source movement and suggests two ways of understanding it: as top-down driven (the cathedral) or as bottom-up driven (the bazaar). Raymond prefers the complete openness of the bazaar, as he argues it holds more and better potential for finding potential errors. Von Hippel (1986, 2005) connects the open-source movement to innovation in the concept of user innovation, which emphasises how users of technologically advanced products or processes can also become developers and innovators of those products or processes. Von Hippel's notions of user innovation and lead users build on insights from the open-source environment (von Hippel, 1986, 2005). In 2003, von Hippel and von Krogh (2003)argued that open sourcing could bridge two distinct models of understanding what drives innovation and innovators – the private and the collective. The major difference between open source and open innovation is the pecuniary focus: open source aims to describe innovation process; open innovation is prescriptive, as it suggests improving a business model to make revenue. In terms of the building industry's focus on innovation, efficiency and profitability, the paradigm of open innovation is interesting, as it features innovation, openness and the economic efficiency of the business model.

When open innovation is viewed as an umbrella notion for strategies focusing on innovative processes inside and outside an organisation's boundaries, crowdsourcing is one of the primary tools in the toolbox in regards to organising interactions between the inside and outside. As mentioned above, crowdsourcing is a neologism created by journalist and writer Jeff Howe (2006) based on the words *crowd* and *outsourcing*. Many definitions of crowdsourcing have surfaced, but I follow the basic tenets of a highly influential review article (Estellés-Arolas & González-Ladrón-de-Guevara, 2012), which argues that important traits of crowdsourcing are: 1) a crowd of people that is digitally organised; 2) an open call towards this crowd that contains a clearly defined task; and 3) a reward structure. Crowdsourcing has been hailed as a method for harvesting creative potential by tapping into crowds and 'unlocking their potential' (Hutter, Hautz, Füller, Mueller, & Matzler, 2011, p. 4). Well-known

examples include Lego Ideas (Lego, 2017), Threadless (Threadless, 2017), InnoCentive (Innocentive, 2017) and The Netflix Prize (Netflix, 2017).

As I will return to later, there are several ways of making distinctions between the multiple practice entailed under the crowdsourcing label. For instance, 'crowdsourcing for innovation' (Majchrzak & Malhotra, 2013) has been suggested and in Chapters 4 and 6 I suggest a typology based on how participants are rewarded. In practice, crowdsourcing unfolds in various ways: The reward structure (e.g., prizes for winning) can differ. Some offer substantial monetary rewards (i.e. Xprize, 2017; Innocentive, 2017), while others offer the honour of winning and the possibility of having the winning proposal realised (i.e. openIDEO, 2017). Some initiatives identify themselves as marketing campaigns for large companies (i.e. Starbucks, 2017), whereas others are presented as 'amateur' science projects (i.e. eBirds, 2017). Some demand highly technical and profession-specific inputs (Netflix, 2017), and others are designed so that virtually anyone can participate (i.e. Lego, 2017). Some programs claim to be crowdsourcing-based, even though they do not look and operate as crowdsourcing platforms do most often (i.e. reCaptcha, 2017). Indeed, the platform design plays a crucial role, as it strongly influences how the users (the crowd) are organised in terms of participation, interaction, coordination and competition.

The platform I examine can be viewed as a digital, open-innovation platform that uses crowdsourcing as its main organising principle. The platform seeks to create innovation in the building industry through 'reengineering' the architectural competition. While the consequences where framed as effects of the meeting between zeitgeists and the industry organisations, the Innosite platform can be seen as a concrete answer (informed and shaped by the consequences) to the challenges faced by the industry organisations.

Presenting Innosite

The Innosite platform is located at www.innosite.dk (see figure 2.1 below). I begin by drawing a picture of the platform by presenting statements about it made by Realdania, DAC and the platform's *About Innosite* page. In its press release, Realdania wrote:

> This initiative aims to enhance idea generation and the level of innovation in the built environment. The website serves as an innovation platform that ties actors with a need for innovation to those with good ideas.

Realdania, 2017b, *my translation*

The platform was also announced on DAC's homepage. DAC's statement elaborated that the platform aimed to:

> …promote dialogue across professions and industries. The platform is open for players within and outside the construction industry, allowing property developers and companies to invite tenders for development assignments, share ideas and provide inspiration for new innovation methods.
>
> DAC, 2017c

From the platform's own website, we find that:

> Innosite builds on the idea of open innovation which means that companies involve external players and knowledge in their development processes. In this way ideas, problems and solutions are taken beyond their usual subject- and organisation-specific contexts. Open innovation platforms facilitate the involvement of users and experts in the development processes. This is because sharing, collecting and selecting ideas and solutions can be done both cheaper and faster than in traditional development and, moreover, independently of the individual project.
>
> Innosite, 2017a

These three statements about Innosite frame the platform within the open-innovation paradigm. DAC's press release situates the platform in the building industry.[7] Both DAC's press release and the platform statement use the word 'players', which seems to indicate playfulness, game situations and enjoyment along with strategy and business planning (Brandenburger & Stuart, 2005). DAC and Realdania emphasize the strengthening of the general innovative level, while the text from the platform itself introduces organisational promises, suggesting that the sharing of ideas can be done 'cheaper, faster and independent of the individual project'. While the meaning of 'cheaper and faster' relates to traditional organisational challenges, the 'independence' of individual projects demands an explanation. What is at stake is a promise of organisational learning that transcends the individual project. In other words, it is an answer to the lack of systematic coordination mentioned by

[7] There is some inconsistency when DAC, Realdania and Innosite translate the Danish word *byggebranchen* into English. 'Construction industry', 'building industry', 'construction sector', 'building sector' and even 'the built environment' have been used. I asked DAC and Realdania about this translation. Their response was that it is more about creating flow in communication than about choosing exact wordings. Therefore, these organisations tend to translate 'byggebranchen' differently depending on the situation. For the sake of clarity and consistency, I use 'building industry' as my primary translation in this dissertation.

Thomassen and Vind (2009). As we now have some understanding of *what* the platform aims to do, I now focus on *how* it is designed and *how* it works.

Figure 2.1: screen shot of Innosite's front page (Innosite, 2017)

As a crowdsourcing platform, Innosite was designed to host competitions in which members can participate. The platform went online in late 2011 and it hosted approximately 25 competitions before it became defunct[8] in late 2015. All competitions were situated within the building industry, but their scope varied from how best to build a glass bus-stop shelter to the best design for new clay bricks. Other competitions focused on conceptualising affordable housing possibilities for students and designing parking facilities for bicycles. As a means for creating an overview and for communication purposes, the team[9] operating the platform utilized a classification system in which each competition was categorized as either

[8] As of the time of writing, www.innosite.dk was still functioning. However, it is no longer being updated and no challenges are being uploaded.

[9] The team consisted of a project manager, a community manager, a graphic artist and a part-time student worker.

focusing on the development of a physical product, the development of a new way of organising processes in the industry or contributing to a current debate.

Each competition was formulated together with an actor from the industry. These collaborating actors were called 'competition owners'. The owners of the 25 competitions were central actors in the building industry (e.g., municipalities, architectural firms, client organisations and consulting companies) as well as more peripheral actors (e.g., the Roskilde Music Festival and the Danish Institute of Fire and Security Technology). Each competition owner had to pay a fee. However, this fee did not cover the total expenses associated with the platform's operation. In fact, the platform could only operate because it received initial funding from Realdania as well as a smaller amount from the Danish Energy Agency.[10] In other words, the general organisation and management of the platform, the costs of operating it and the salaries paid to the operating team associated were 'prepaid'. Only the costs associated with each competition had to be covered by the competition owner (e.g., costs for any conferences, communication materials or reports). Due to the funding setup, a steering committee was established, which included representatives from Realdania and the Danish Energy Agency as well as two independent advisors. Twice per year, the project manager reported to the steering committee. I was also invited to present my research during these meetings. Much of the knowledge I gained about the building industry as well as important background information on Innosite originated from these meetings.

Most of the competitions ran for eight weeks, although a few ran for five or six weeks. Only one competition was active at a time. As mentioned, the goals of the competitions varied widely, but they were generally organised and conducted in a relatively consistent and homogeneous way. We might say that the ontological status of the competitions was stable and defined, while the ontic status was flexible and negotiable.

The competitions followed a basic structure. As the first step in initiating a competition, the project manager contacted potential competition owners, as it took some work on behalf of the operating team to explain how the platform worked and which benefits the competition

[10] This raises the question of how the research would have looked and what insights might have been produced if the platform had been organised and managed on "market terms". Even though this is an interesting debate, it is not within the scope of this research project to suggest answers.

owner could expect. Together, they composed a 'competition brief', which was a document approximately two pages long that set the scene for the competition. This brief contained the context, the competition question (the challenge or task), the participation requirements (formal and technical), the assessment criteria, the list of prizes, the list of jury members and submission deadlines. A competition always began with the uploading and publication of the competition brief. Immediately thereafter, members could begin to answer the call by uploading their ideas or solutions to the challenge (see Figure 2.2)

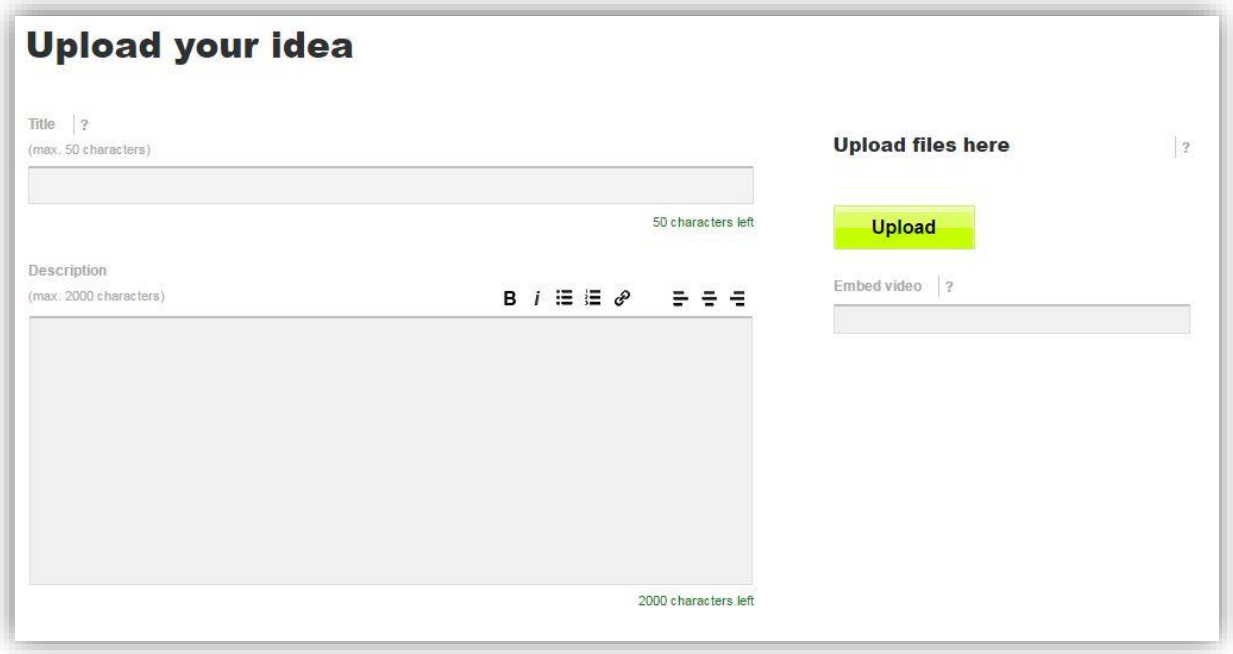

Figure 2.2: screen shot of idea-upload page (Innosite, 2017)

In terms of the composition of the 'crowd', it is important to note that it did not just come into existence. Instead, it was constructed. When the platform was launched in 2011, there were no members. After the platform hosted the final competition, there were approximately 3,570 members (Innosite, 2017b). The project manager told me that only about 30 crowd members registered for the first competition. Some competitions were more popular than other in terms of generating additional crowd members, but generally the crowd grew linearly over the five years in which the platform was in operation. The operating team advertised the platform through posts on DAC's homepage, mentions in DAC's newsletter, and posts on team members' own Facebook and Twitter accounts. Physical advertisements in the form of posters and flyers were also distributed to schools, libraries, universities and other public places.

Throughout the course of a competition, crowd members uploaded proposals[11]. The platform was designed as an open space in the sense that as soon as a contribution was uploaded, it was public. This meant that anyone with a profile could view it (see Chapter 5 for elaboration). This process is notably different from traditional architectural competitions in which participants' contributions are kept secret until after the jury's deliberations. Even in novel dialogue-based competitions, openness among architects during the competition process is rare.[12] This design choice reflected the ambition to challenge the traditional competition format and the culture of the architectural world, where nothing was shared due to fear of intellectual property rights infringements. Therefore, the argument about having an open and public space took on a normative stance, as it was designed to challenge the culture of the industry. It could, therefore, be viewed as conflicting with the goal of getting as many uploads as possible. The argument made to encourage individual crowd members to share their contributions in the initial phase was that the platform was designed to strengthen contributions through input from the crowd. In other words, the argument was that if a crowd member uploaded an idea early in the competition, then other crowd members could offer valuable feedback that could be incorporated into the contribution, thereby strengthening it. The competitions held on Innosite was designed to suggest collaboration between the (competiting) crowd members. Being inspired by both the open-innovation paradigm and the thoughts from the open-source environment, the platform was designed to both to organise a competitive crowd *and* a collaborative community. Even though the platform was designed to allow for collaborative practices among crowd members, the raison d'être of the platform was to host competitions and to find winners among the participating crowd members. We could say that the competitions supported elements of collaboration 'within' their design. Examining this tension between collaboration and competition is an aim of Chapter 5.

While a competition was underway, a community manager would engage with contributions submitted by crowd members by posing both critical and encouraging comments and questions. When the final deadline passed, the upload button became inactive (see Figure

[11] In the beginning the operating team used 'idea', 'upload', 'contribution', 'solution' and 'proposal' interchangeably. Later they more or less settled on 'proposal'.

[12] In Denmark, the particular competition format called 'parallel assignment' (as seen in the Ørestad example above) is sometimes but rarely organised with complete transparency and openness among architects during the process.

2.2), so that that contributions could no longer be submitted. The community manager then screened all contributions and chose a proper amount (usually between 20 and 30), which were then presented to the appointed jury at a dedicated jury meeting. A competition came to an end when the jury chose a winner, a few runners-up and a few honourable mentions. The process for selecting the winners is the subject of Chapter 6.

This presentation of the digital platform concludes this chapter. The aim was to show the empirical and conceptual contexts in which the platform was designed and operated. Hopefully, the use of zeitgeists has demonstrated that this journey from backgrounds to foreground could have been told in other ways. These constructs are a practical result of my interactions with the setup.

PART I

CHAPTER 1 INTRODUCTION

CHAPTER 2 BACKGORUND

CHAPTER 3 METHODOLOGICAL CONSIDERATIONS

The main purpose of this chapter is to elaborate on the methodological choices and considerations that arose during the research project. On the basis of various streams of thinking, including the pragmatic tradition, I describe my understanding of ontology and epistemology. I also elaborate on my concrete forms of interaction, before I discuss what it has meant for me to work case-based.

CHAPTER 4 READING THE LITERATURE

Methodological considerations are paramount to academic work, as they are an elaboration of and reflection on the journey travelled. The Greek *méthodos* is defined as the 'pursuit of knowledge' or as an 'investigation'. Its roots, *meta* and *hodos*, mean 'after' and 'journey', respectively (Merriam-Webster, online). This implies that methodology is the knowledge of the journey, including post-reflections. We could say that methodology becomes an ontology and epistemology of the concrete. It reflects what we can say about knowledge in terms of the particular objects encountered on the scientific journey.

Methodological considerations can take many forms depending on such factors as the tradition, the type of research and the choice of methods. They entail an ongoing discussion of what to include and how to present it. Most researchers include both considerations of epistemology and ontology, as well as more practical considerations of how they interact and establish knowledge. For instance, the terms 'paradigm' (Kuhn, 1962) and 'perspective' (Nepper Larsen, 1995; Nietzsche, 1968) are often used to account for particular epistemological and ontological beliefs, while choices regarding practical engagement with and in a field are contained in the word 'method'. For some, 'methods' imply an understanding of the research object as a stable and finalised object that is just waiting to be grasped through neutral methods (Law, 2004). To counter this understanding, terms such as 'analytical strategy' (Knudsen, 2009) have been suggested as a way of emphasising that all engagement co-constitutes or even creates the 'research object'. I agree with these objections against a traditional understanding of 'methods' and therefore I use 'interactions' instead as a constant reminder that I do interact with and in my research project and my case. These interactions will be unfolded and discussed later in this chapter.

A scientific perspective requires consideration of what we know and how we know it, as well as considerations on the objects of that knowledge. In more concrete terms, this often entails reflections on questions such as 'what is truth?', 'what is data and how is it collected?' and 'what is the role of the researcher?'. A common, institutionalised distinction is found between the natural science and the humanities (Simon, 1996). In expanding this idea, some argue for a distinction among a realist perspective, a phenomenological perspective, and a constructivist perspective (Egholm, 2014; Justesen & Mik-Meyer, 2012). In this chapter, I account for my approach, which is somewhat 'integrative', as I engage with different traditions and lines of thought. However, I am inspired by pragmatism, as put forth by Dewey

(1938, 1939), Rorty (1982, 1992) and others. This inspiration is evident in the three articles presented in this dissertation: As analytical resources, those articles call on 'affordances' (Gibson, 1979), 'moments of valuation studies' (Stark & Hutter, 2015) and 'situated perspective' (Suchman, 1987), respectively.

Such considerations – or beliefs – influence how a researcher interacts in and with a domain. This dissertation is based on ethnographic work, which I divide into observations, participation and interviews. I use notions from case studies (Flyvbjerg, 2006; Yin, 2013) to carve out the focal area and to discuss what can be learned in terms of generalisability. Even though I have had access to numerical data, I do not use that data with the ambition of measuring 'quantity, amount, intensity, or frequency' (Denzin & Lincoln, 2000, p. 8), as is common for quantitative methods. On the contrary, this dissertation is based solely on qualitative interactions (Justesen & Mik-Meyer, 2012).

Building a tapping hammer

Nietzsche is known for the normative claim that we need to 'philosophise with the hammer' (Nietzsche, 2016, p. 1, originally published in 1895). He argues that people in general and academics in particular need to use a hammer to tap on idols in order to determine which are hollow. He continues:

> This little book is a *grand declaration of war;* and as regarding the sounding-out of idols, this time they are not idols of the age but eternal idols which are here touched with the hammer as with a tuning fork – there are no more ancient idols in existence.
>
> (Nietzsche, 2016, p. 1)

In my view, 'philosophising with the hammer' is an instructive way of framing how academics should work in society. By tapping on concepts and phenomena, we do not necessarily smash them but we learn something about the components underneath the surface. Maybe it is more productive (albeit less dramatic) to emphasise the tuning fork metaphor as it suggests tapping on concepts and phenomena and then investigate the resonance. I do not declare 'grand wars' or aim to 'sound out idols'. But I do intend to examine concepts and phenomena and how they relate to each other in my research project. To stay with this metaphor, this chapter (and implicitly also the next) become an elaboration of the tapping hammer or tuning fork I have used: how is this tool composed? Which materials have been used to build it?

Wittgenstein characterised philosophy as 'a battle against the bewitchment of our intelligence by means of language' (Wittgenstein, 2009, para. 109 [originally published in 1953]). Throughout his work, he fights against misunderstandings and the erroneous use of words, even though he presents his arguments in somewhat different ways. He concludes his early work with the enigmatic 'whereof one cannot speak, thereof one must be silent' (Wittgenstein, 2007, para. 109 [originally published in 1922]). In *Philosophical Investigations,* he argues that,

> Our investigation … sheds light on our problem by clearing misunderstandings away. Misunderstandings concerning the use of words, caused, among other things, by certain analogies between the forms of expression.
>
> (Wittgenstein, 2009, para. 90 [originally published in 1953])

Throughout his work, Wittgenstein argues that the role of philosophy is to avoid or clear up misunderstandings and conceptual confusion created in and by language. In his later work, Wittgenstein argues for an understanding of language as non-representational. He suggests that to clear up misunderstandings and confusion, we must understand how language works not as representation but as (local) language games. For Wittgenstein, an understanding of such language games includes the notion of 'rule following' – humans follow certain rules when they think and talk to each other, and these rules are what we need to scrutinize. Whether this rule-following should be seen as a pragmatic comment or a foundational belief is a subject still open for debate (Due, 2011).

For Deleuze and Guattari (1994), the role of philosophy is not to clear up misunderstandings but to create concepts. To make this claim, they distinguish between science and philosophy, where the former has to do with 'function' and the latter with 'concepts':

> Philosophy is not the simple art of forming, inventing, or fabricating concepts, because concepts are not necessarily forms, discoveries, or products. More rigorously, philosophy is the discipline that involves *creating* concepts […] Concepts are not waiting for us, ready-made, like heavenly bodies. There is no heaven for concepts. They must be invented, fabricated, or rather created and would be nothing without their creator's signature.
>
> (Deleuze & Guattari, 1994, p. 5)

For these authors, philosophical systems differ from scientific theory because a philosophical system 'does not merely consist in a series of statements about a particular domain of reality'

(Due, 2011, p. 361). As scientific theories, concepts are not bound to a certain domain. Instead, they relate to other concepts: 'a concept requires not only a problem through which it recasts or replaces earlier concepts, but a junction of problems where it combines with other co-existing concepts' (Deleuze & Guattari, 1994, p. 19).

In Deleuze and Guattari, we see an approach to the role of philosophy that is almost antithetical to Wittgenstein's conception. As shown, Wittgenstein argues that philosophy serves to address the misunderstandings caused by language, while the Deleuze and Gauttari suggest that philosophy must (continue) to create concepts aimed at grasping that which may otherwise seem too complex or too mundane to understand using the existing conceptual vocabulary.

I am interested in understanding crowdsourcing and the architectural competition, as well as how they relate to each other. These phenomena have organisational consequences. Armed with a little hammer constructed with the ambitions to clear up misunderstandings and to create something new, I aim to tap on these phenomena and understand how they resonate.

A short introduction to pragmatism: inquiry, truth and abduction

At the beginning of the twentieth century, Charles S. Peirce, William James and George H. Mead laid the groundwork for what is now known as American pragmatism. I have already touched upon themes from this tradition with which I feel a certain kinship, and I will continue to return to these themes throughout this dissertation. In particular, Dewey and his modern interpreter Rorty have been sources of inspiration.

Instead of adhering to a stringent pragmatic understanding, and delving into internal inconsistencies and differences between, for instance, pragmatism and pragmaticism (Jenle, 2015; Charles S. Peirce, 1905), I follow Pedersen, who posits that she takes a 'rather pragmatic attitude to pragmatism as a theoretical field' (Pedersen, 2013, p. 94). It is here paramount, to note that I distance myself from the notion that pragmatism is 'almost anti-intellectual' (Pedersen, 2013, p. 95), as I see a pragmatic approach as formed by both intellectual and empirical commitments. I have no interest in an almost a priori disavowing of theory, nor do I believe that insights often labelled under either 'post-structuralism' or 'the linguistic turn' are irrelevant or clash with the original pragmatic mantra. What I think is important in this

regard, is to reflect and make explicate what counts as 'theory' in a given academic endeavour and what counts as, for instance, 'empirics'. From Deleuze and Guattari (1994), we learn that concepts require a 'junction of problems'. This is close to Dewey's concept of the inquiry, which he discusses in 'Logic: the theory of inquiry':

> Inquiry is the controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole.
>
> (Dewey, 1938, p. 104)

This indeterminate situation is what Dewey refers to as the 'problem' or the 'problematic situation' (1938, p. 107). Without this problem, 'there is blind groping in the dark' (1938, p. 108). In this regard, Chapter 2 offered an elaborate formulation of the problem at hand, which was crystallised in the research question in Chapter 1. From this understanding of the inquiry as a local examination heavily shaped by the problem at hand, we gain a glimpse of the role of 'truth' in pragmatism. Truth is also a local phenomenon in the sense that ideas are true if they can 'explain people's ongoing experiences' (James, 1907a, p. 34). Therefore, pragmatism also departs from truth (or false) as something inherent and objective:

> The truth of an idea is not a stagnant property inherent in it. Truth *happens* to an idea. It becomes true, is *made* true by events. Its verity *is* in fact an event, a process, the process namely of verifying itself, its *verification*. Its validity is the process of its *validation*.
>
> (James, 1907b, p. 142)

An inquiry's capacity to address and solve a given problem (i.e., make a 'judgment') is what determines its truth value. This is the key tenet: truth is connected to usefulness and purpose. The neo-pragmatist Rorty seeks to align the linguistic turn with the pragmatic understanding of truth. He forcefully argues that there is no extra-linguistic method of representation and that knowledge is a web of statements, all of which are measured in terms of their 'usefulness and applicability, which may be constrained in terms of time and place and user' (Bryant, 2009, pt. 2.4). Rorty famously quotes Nietzsche, saying that 'the truth is in fact a mobile army of metaphors, metonyms, and anthropomorphisms' (Nietzsche in Rorty, 1991, p. 3).

This distinct understanding of truth allows pragmatic thinkers to collapse the two traditional logic operations of deduction and induction into a third – abduction. For Peirce (1932) abduction is 'qualified guessing'. A study based on 'abduction observes and uses all signs,

especially small and not immediately significant clues from the incomprehensible situation's [i.e. the problem's] context' (Egholm, 2014, p. 173). This description aligns with my approach as I did ethnography-based work to understand how an experiment was unfolding in practice. My ambition has not been to say something 'True' (with the capital T) about this experiment, but rather to say something 'true and useful'.

From pragmatism, I take the idea that inquiries are local, and shaped by the problem or situation they encounter. Furthermore, I accept the (neo)pragmatic idea that the meaning of such inquiries can never escape the language in and with which they are undertaken. However, in light of the tapping hammer fused with insights from both Deleuze and Wittgenstein, we should reflect on how our particular language works, and whether it is most useful to clean up or create something new. Reflections such as this was from the beginning a been part of my engagement in the research project, because from one angle something 'new' was taking place (crowdsourcing and novel competition setups in the building industry), but from another angle this could be seen and described as yet another form of architectural competitions. Therefore, it has been important for me to reflect on which language and which words I would call on to 'name' the things I have been looking at. Given these elaborations, I now turn to the more concrete operations and interactions.

My ethnographic work

I formally started this research project on 15 October 2012, which was my first day at the Danish Architecture Centre (DAC). Although many of my memories of my ethnographic explorations (Fayard & Van Maanen, 2015; Neyland, 2008) are increasingly remembered through my notebook entries, I still vividly recall this first day.[13]

When I stepped into the large, open-office landscape at DAC, I was met with the words: 'So, you are the expert'. As I tried to come up with an answer that could contain both 'yes', 'no' and 'that depends on what you mean', the speaker continued: 'I ask because I am looking forward to finding out what we are actually doing here'. I could not tell if she was being witty, honest or both. Later that day, I took a break in the office kitchen. While I was trying to get the espresso machine to work, one of the IT personnel asked me who I was. I explained my

[13] Perhaps one reason that I remember that day so vividly is that I kept reminding myself that 15 October was the birthdate of both Nietzsche (1844) and Foucault (1926) – maybe I was a little overexcited.

reason for being there and he asked if I was an architect. When I told him that I was actually a trained philosopher with an interest in technology, he shook his head and asked: 'Then what are you doing here?'.

When I stepped into the office that day, I knew that DAC had launched a digital platform and that this platform was going to be the focus of my research. Prior to interviewing for the position, I had visited the platform online to gain some first-hand experience, but I was ignorant of the decisions that had let to the platform's creation and reasons for existence. When I stepped into DAC, I knew very little about the state of the Danish building industry. On the bright side, I told myself that if there was any truth to the academic saying about approaching empirical material with fresh eyes, then the tracks were laid out for me. I spent nearly two hours talking to my office neighbour, who was the platform's community manager. She introduced me to the field, described important actors, provided me with her take on the industry and discussed how the Innosite experiment could move the industry forward. Throughout this long, informal chat, I took extensive notes and tried to comprehend the situation. I then spent the rest of the afternoon browsing the digital platform. Again, I took plenty of notes.

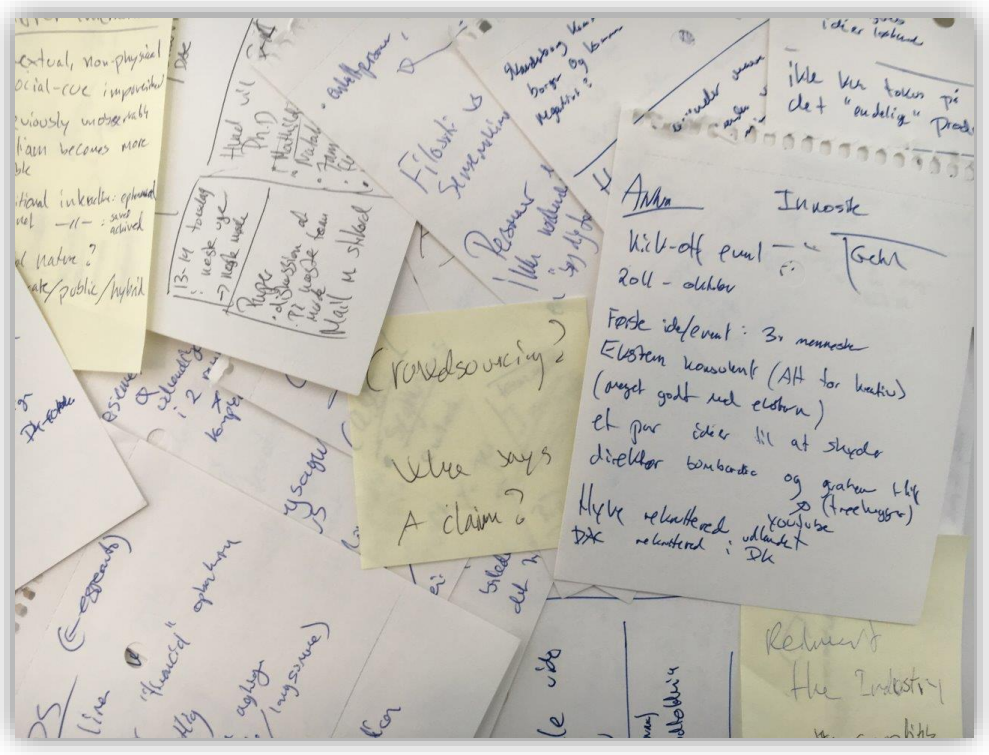

Image 3.1: an early collection of notes

In the early phases of my research, notes and picture were my favourite ways of documenting and remembering. As shown in Image 3.1, I began by writing notes on Post-its and in notebooks. However, I soon began using the Evernote application to take notes, which offered online synchronisation among smart phones, tablets and laptops. Therefore, I always had my complete and updated notes with me, and as a 'note' could contain text, pictures, audio and attachments, I found the system to be a useful tool. Furthermore, it was possible to edit, annotate and tag notes, and they were all indexed and searchable, which meant that I was able to use the application to code my findings.

Field-note writing is a craft (Emerson, Fretz, & Shaw, 2011) with which I was not particularly familiar before undertaking this project. This is evident when examining my notes. Notes taken early on in the project are simultaneously elaborate and restricted – elaborate in the sense that I wrote many things, almost to the extent that I appear to be seeking to document 'all that happened', and restricted in the sense that I did not spend time putting each note into context: revisiting notes without the metadata necessary to establish the context makes it difficult to use them in a coding situation. Moreover, the notes from the beginning of the project vary widely in scope – some contain up to 500 words while others are just a line or two aimed at documenting an interesting practice. Later, I developed a more uniform approach, which made it easier to compare notes and to produce them, as I had a form that I could follow. I have approximately 500 notes, all of which contain text. Approximately half also contain pictures, while a few contain audio or other attachments.

While the formal start date of my ethnographic work is easy to determine, both the scope and the end date are more difficult to establish. For the first six months (late 2012 to summer 2013), I spent approximately 30 hours a week at DAC. I then experienced a severe concussion, which resulted in eight months away from the DAC. In early 2014, I began a slow comeback that took nine months, starting with an 8-hour work week and increasing to full time by the end of 2014. For the first half of 2015, I was basically invested in the ethnographic work on a full-time basis. I spent the autumn of 2015 at Stanford University. As of early 2016, I was mostly at Copenhagen Business School, where I wrote, took courses and taught, even though I occasionally undertook interviews and engaged with the Innosite team in other ways. In total, the hours I invested in the project were almost equal to but a slightly less than two years. However, the timespan ran from late 2012 into 2016.

Building a case of cases, step 1

As Neyland (2008) proposes, there are several possible connections between research questions and ethnography. Some use ethnography to develop new methods (Hine, 2005) and others focus on theoretical developments (Latour & Woolgar, 1979). The development of a research question before entering a field (see for instance Suchman, 1987) allows for an early focus. I had not formulated a research question beforehand. Rather, a case was given, as the research project had to involve the digital platform Innosite.

In this section, I begin to reflect on what it means to work case-based, which is important for two reasons. First, reflections on what my case entails will help to delimit and focus the examination. Second, the language and insights from case study methodology (Flyvbjerg, 2006; Yin, 2013) offer some idea of what can be learned from this examination.

Early in the research project, I understood the digital platform, confined to the digital space of Innosite, as the case. This was also mentioned several times by managers at DAC. However, my study of the work and practices of several employees responsible for the platform's operation helped me realise that a sharp distinction between what happened "on" the platform and what happened "off" the platform could not be sustained, as the aim was to understand how this platform played out and mattered in the building industry. Therefore, I expanded my understanding of the case to encompass both the digital platform and the people working around it. In practical terms, this meant that I expanded my focus area from the digital platform "in itself" to include the work of such actors as the operating team and the jury that selected the winners (see Chapter 6).

Furthermore, in the course of my research, I learned that such words as 'competition brief', 'jury deliberations', 'assessment criteria', 'user involvement' and 'architectural quality' were important on the platform. It became increasingly clear that the practices on and off the platform were situated in the architectural world and in the building industry. This is illustrated in the opening quote, where it is argued that the digital platform was 'designed to spearhead the architectural competition and bring it into the twenty-first century' (observation, 15 December 2011). Therefore, it was evident for me that gaining knowledge 'outside' the Innosite case could prove beneficial to the combined research project. When an opportunity arose to analyse an(other) architectural competition (see Chapter 7), I decided

to expand my understanding of the case(s) associated with the research project. In this regard, I consider the practices occurring on and around the digital platform Innosite as my primary case, and I view the Carlsberg City competition as my secondary case. As touched upon above and discussed in more detail below, I interacted with and in the primary case. In the secondary case, the interactions were conducted by a fellow researcher. I reflect on the methodological consequences of this approach below, but first I elaborate on how I interacted with my primary case.

My interactions with the Innosite case

Three concrete forms of interaction emerged from my ethnographic presence: observations, interviews and participation (see Table 3.1 for an overview). In observations, I focused on documenting the work of others (e.g., practices, habits, interactions, platform design). The interviews consisted of somewhat structured conversations between myself and another person. When participating, I actively took part and contributed, often with a group of people. The demarcations among these three forms of interaction are analytical, as the different forms often overlap in practice. For instance, the line between observing and participating was often blurred or non-existent when I examined jury meetings – even though my ambition was to observe, it sometimes felt intuitively right to participate by sharing information or answering questions directed at me. In terms of use in the analyses and in terms of time spent, 'observations' were the main type of interaction.

Observations

I made two types of observations, which we can describe using the notions of structured and unstructured observations (Bailey, 1994; Kristiansen & Krogstrup, 2015). I engaged in unstructured or open observations in the beginning of the process. At that time, I was present in the open-office landscape and on the digital platform, but I did not search for anything in particular. Instead, I listened, watched and documented. In the office, I had a desk next to the members of the Innosite operating team, which meant that I could follow their work practices, their informal conversations and even their phone calls. I also managed to build enough trust for them to let me sit for hours and look over them their shoulders when they operated the platform. Furthermore, I established an email culture in which they copied me on all mail regarding the platform. As many of their coordinating tasks involved phone calls, emails or work on the platform, I could draw a rich picture of their work and practices. At

times, it was possible to follow a person for an entire day. In this way, I shadowed (Quinlan, 2008) both the community manager and the project manager several times. Moreover, I spent several hours undertaking unfocused observation on the platform, during which I did not look for anything in particular. Rather, I browsed the site in order to become familiar with the design features and possible actions the crowd members could take. After this initial period of 'getting to know' the platform, I developed a practice of spending two to three hours on the site every Monday morning to determine whether any interesting actions had taken place over the weekend. I also spent one hour on the site every Wednesday and Friday afternoon in order to examine the most recent activities.

As the combination of ethnography and examination of a digital platform was new to me, I found inspiration and concrete guidance in books on the matter. *Netnography* (Kozinets, 2010), *Doing Visual Ethnography* (Pink, 2013a) and *Virtual Methods* (Hine, 2005) each contributed to my ethnographic activities in both the digital and traditional spaces. In particular, I found Kozinets' suggestion of differentiating 'research on online communities from research on communities online' (Kozinets, 2010, p. 63) to be instructive, as it made me reflect on the practices taking place 'on' and 'off' the platform. In other words, I considered the extent to which practices were only possible in the digital realm and the extent to which certain practices mirrored practices in non-digital spaces.

Observations in a digital realm are often displaced in time, as traces of activities are the object of observation. Posts, messages and uploads are typically not observed as they happen.[14] They are viewable, because they are digitally stored and can, therefore, be accessed until they are deleted from the platform or server. This kind of observation, combined with the reading of text on the platform (e.g., the 'about' page, uploaded PDF files) as well as internal memos, press releases, technical reports and other documents circulated in DAC, resembles document analysis (Justesen & Mik-Meyer, 2012, p. 177ff).

Opposed to such open observations are structured observations (Kristiansen & Krogstrup, 2015) in which the researcher looks for something more specific. In my research, one example of such structured meetings was found in the jury meetings, which were held to select the

[14] The platform had no instant communication functions, such as video conferencing or instant chat.

winners of competitions. While observing my first jury meeting, I focused on understanding and mapping the process. In later observations, I focused on such aspects as how jury members constructed their arguments and the role of the meeting facilitator. I also began to look for more specific things on the platform. For example, at one point, the community manager told me that some crowd members displayed particular behaviour when a competition was about to end and I therefore began to look for this practice.

As every action on the platform was stored and available, I spent a considerable amount of time looking through this information 'archive'. My aims were to classify crowd member interactions and establish an overview of those interactions, and to examine the activities of the operating team and the community manager. In total, I spent more than 200 hours browsing the site. I also had access to the backend database, which included (anonymous) registers of activities on the platform. The data included information on such aspects as the number of crowd members at given times and the amount of activity (e.g., comments, likes, uploaded ideas). As already mentioned, I did not use these data in any statistical way, but rather as background information and as points of departure for further examinations. Observations made "on" the platform were stored in screenshots, which I uploaded to the Evernote application.

Interviews

While undertaking my research, I conducted 11 traditional semi-structured interviews (Justesen & Mik-Meyer, 2012; Kvale & Brinkmann, 2014) with various key actors (see Table 3.1). These interviews mostly provided background information. Furthermore, I interviewed the project manager and the community manager numerous times over a longer period. I frame these interviews as 'longitudinal' – the interviews occurred approximately once each month and I asked many of the same questions every time. These longitudinal interviews were informal but inspired by the 'analytical interview' suggested by Kreiner and Mouritsen, who write that 'the interview begins with the premise that both researcher and respondent are knowledgeable about the situation they are discussing' (Kreiner & Mouritsen, 2006, p. 174). These interviews typically lasted between 30 minutes and 1 hour. The final type of interviews were in-situ interviews in which I posed questions to the crowd members using my profile to interact with them on the platform. I conducted 20 of these interviews with varying results in terms of scope. Some prospective interviewees never responded, some replied with

short answers and some sent elaborate responses. These in-situ interviews were documented in screenshots, and all interviews were digitally stored in the Evernote application.

The differences among the semi-structured interviews, the 'longitudinal' interviews and the in-situ interviews were striking. One important difference was that the latter were written and sequential, as they took place on the platform. As already mentioned, not all of the crowd members that I approached in this way wanted to participate, and it was difficult to obtain useful elaborations from those who did. For the semi-structured interviews, I generally tried to ask follow-up questions based on 'how' (Becker, 1998) in order to encourage respondents to elaborate in more practical terms. On an ethical note, 'why' questions can come 'across as judgmental' (Jenle, 2015, p. 36), which can counter the development of trust and openness in the interview session. As the longitudinal interviews covered several years, a great amount of trust, respect and humour was established between me and the respondents (the community manager and the project manager).

Participation

My participation varied in terms of form and impact. First, the weekly meetings with the Innosite operating team provided a significant amount of information. At the meetings, the latest information was shared and plans for the coming week were developed. The meetings had fixed agendas. The programme director decided that my latest findings or insights would be a permanent item on the agenda. The team was particularly interested in whether I had knowledge of comparable platforms, or academic knowledge of, for example, crowd behaviour and psychology, or of optimal platform design. In a sense, I became involved in some of their success criteria, as I was asked how I thought the platform should be designed and operated.

Along similar lines, I was invited to participate in 'platform development' meetings with the design company (HYVE) to discuss how the platform should be (re)designed and whether changes should be made. Prior to these meetings, the operating team held brainstorming sessions in which they discussed what was working and what could be changed. I was invited to actively participate in these meetings.

I also participated in the steering-committee meetings – bi-annual meetings in which the Innosite project manager had to account for the previous six months of activities. The committee was comprised of various stakeholders, including the funding partner Realdania, the Velux Foundation and representatives from various governmental agencies. I was asked to take part in order to account for the evolution of my project and to elaborate on how my research was helping Innosite develop. Initially, I viewed these meetings as a documentary effort that I needed to deliver as part of my project. However, I eventually began to see them as opportunities to gather knowledge. In the steering committee, informal discussions about such issues as the state of the architectural competition, the architectural profession and the (lack of) collaboration among stakeholders in the building industry took place, which helped me to understand the setting in which the platform operated. These discussions also helped me realise that the particularities of the architectural world would have to be included in my understanding of the digital platform. For instance, discussions that took place at these meetings made me begin to understand architects' reluctance to share their work and the complex competition setup that organises much of the interaction in the industry. I was often asked to comment on my understanding of the themes being discussed.

Common to all these participatory events was the expectation that I had to offer *normative* and *useful* comments. One challenge in this regard was that it was difficult for me to participate while simultaneously documenting the event. For instance, the steering committee had no issues with me learning from their meetings, however its members were hesitant to let me record them. Therefore, I had to rely on my memory to write down notes after the meetings and to combine these notes with formally produced documents, such as minutes and official written statements. These were also uploaded to Evernote whenever possible.

Type	*What/Who*	*When*	*Where*
Observations	Open-office observations, including shadowing	2012 – 2016 (more than 1,000 hours)	DAC, Copenhagen
	Platform observations	2012 – 2016 (more than 200 hours)	Online, Innosite.dk

	Backend data	2012 – 2016 (more than 50 hours)	Online, Innosite.dk/admin
	Jury meeting, Sleep Tight	February 2014 (3 hours)	DAC, Copenhagen
	Jury meeting, Dressed in Clay	November 2014 (3 hours)	DAC, Copenhagen
	Jury meeting, Fire Away	January 2015 (3 hours)	DAC, Copenhagen
Interviews	Programme Director, DAC	2012 – 2013 (2 interviews)	DAC, Copenhagen
	Chairman, Danish Association of Architects (DAA)	2012 – 2014 (2 interviews)	Smith Innovation, Copenhagen
	Chief Executive Officer, DAC	November 2014	DAC, Copenhagen
	Community Manager, Innosite	2012 – 2016 (once per month) Longitudinal interview	DAC, Copenhagen
	Part-time Community Manager, Innosite	2014 – 2015 (3 interviews)	DAC, Copenhagen
	Project Manager, Innosite	2012 – 2016 (once per month) Longitudinal interview	DAC, Copenhagen
	Managing Director, HYVE	November 2012	HYVE, Munich
	Project Manager, HYVE	March 2014	HYVE, Munich
	Crowd-member interviews	2014 (20 interviews) In-situ interviews	Online, Innosite.dk
	Competition Advisor, Danish Association of Architects (DAA)	2016	DAA, Copenhagen
Participation	Weekly Innosite meetings	2012 – 2014	DAC, Copenhagen
	Platform-development meetings	December 2012 May 2013 March 2014	Hyve, Munich DAC, Copenhagen DAC, Copenhagen
	Steering-committee meetings	2012 – 2015 (6 meetings)	DAC, Copenhagen

Speaker, seminar	2014	DAC, Copenhagen
Speaker, conference	2015	DAC, Copenhagen

Table 3.1: overview of interactions

Building knowledge

The fact that all of the data was kept in Evernote allowed me to undertake collected coding, that is, searching through all documents, notes, tags and themes in one program. I listened to interviews and tagged them with themes and dates. I also read the observation notes and all other document (e.g., PDFs, screenshots, minutes, press releases, internal documents) and tagged them with themes. I did not establish themes in advance. After this initial coding, I began to look for pervading or overarching themes using abductive reasoning.[15] As discussed in Chapters 5 and 6, 'openness' and 'winner' – in various wrappings – were reoccurring matters.

Becoming expert – reflections on methodological challenges

In reflecting on my role as a researcher, I suggest 'becoming an expert' as an umbrella term for several of the issues and challenges that arose as I undertook this long-term ethnographic work. This term reflects what happened as I began to get near to and invested in my field (Nielsen & Repstad, 1993). The three instances described involve both ethical and more technical dimensions.

As mentioned, on my first day I encountered the expectation that I was an expert who could help the employees 'figure out what they were doing'. Even though I tried to downplay this view, it was a recurrent theme. Even on that first day, it was relatively clear that the DAC employees did not have a clear idea of what they were doing. They were by no means incompetent, but they seemed to be searching for frames of reference for their work practices. When they asked me about such subjects as open innovation, crowdsourcing and different platforms, I would have found it difficult to avoid sharing what I knew or what I was

[15] In many ways, these two steps of coding resemble the 'open' and 'axial' coding that Strauss and Corbin (1990) suggest when they lay out the pillars for grounded theory. The connection between grounded theory and pragmatism is most adamantly investigated by Bryant (2009), who analyses how the concrete methods suggested in the former are strengthened by epistemological and ontological considerations from the latter.

learning. As a result, I became a frame of reference. In the following, I highlight three instances in which that expert role played a decisive part.

After I had been at DAC for approximately two months, the Innosite operating team and I were invited to a two-day development session. I was asked to make a short presentation on innovation. Even though I did not consider myself to be an expert in innovation, I made a short presentation in which I elaborated on different approaches to innovation and how they mattered for organisations. This led to a group discussion of the terms the organisation used. After a while, consensus spread that they would not refer to the platform as an open-innovation (Chesbrough, 2003) platform but as a crowdsourcing (Howe, 2006) platform, as they felt the latter term was a better description. It is difficult for me to elaborate on how this change of terms mattered, but it is clear that my presentation instigated the shift.

The second instance occurred after I had been at DAC for approximately one year. I was asked to participate in a brainstorm meeting about how the platform worked. The operating team (especially the community manager) felt that the platform's design was not optimal, so the entire operating team was brought together to talk about the issue before the platform-design team was flown in from Munich. I felt a sense of ambivalence before this meeting. On one hand, I thought that it would be academically interesting to examine areas that the operating team felt were not functioning optimally. On the other hand, I wanted to help my colleagues in any way I could. I consulted my supervisor and some texts on 'action research' (Baskerville & Myers, 2004; Brydon-Miller, Greenwood, & Maguire, 2003) before deciding to participate and share my thoughts. The most relevant outcome of the ensuing meeting with the design company was that two buttons (i.e., platform features) were removed from the design. Therefore, the organising of the competitions taking place on the platform changed. From an overall perspective, these two buttons and their related features played minor roles on the platform, and I do not know the extent to which this decision was based on my comments.

The third instance of becoming an expert occurred when I was asked to offer the keynote address at a conference at DAC in 2015. In this instance, it was obvious that the DAC team regarded me as an expert. Approximately three years had passed since I had begun working on my dissertation at DAC and I had become an authority on the subject matter. This time I

was not worried about how my activities would affect my own research because I had already decided to engage actively, and because my ethnography and concrete interactions had already basically come to an end. However, I felt a moral dilemma, as I had been asked to present my thoughts on the platform. I knew that high-ranking officers at DAC would ask whether I thought the platform had been a success. Although I believed that the platform as an experiment was highly relevant and successful in terms of testing what happens when the architectural completion meets new digital technologies and possibilities, I agreed with various stakeholders' claims that the platform had not performed as expected in terms of actual output. My dilemma was that I knew that the future of the platform had been discussed behind the scenes. Obviously, a decision to shut down the platform could result in people losing their jobs. I had come to hold these people in high regard and valued them as friends. Therefore, I had to weigh my words carefully so that I would not betray my research or my colleagues.

I assume that I influenced the case and in many other instances as well. At certain times, such as those described above, I was fully aware of my actions and I saw how my input changed things. At other times, I did not notice how my interactions, my use of language or my presence influenced the surroundings. Arguably, those situations could be as influential as those mentioned above. If we frame my interactions within a pragmatic approach, this is not highly problematic. What is important is to reflect and qualify, that is, ask how you, as researcher, affect the field and how this matter. Above, I have aimed to show, how I have influenced the field I was operating in, but hopefully it is also clear that I have not caused the field to move in a completely different direction.

Behind the scenes of the Carlsberg City case

As mentioned above, at a point in the research process I decided that my research would benefit from a broadening of the scope to include a second(ary) case. This case draws on the ethnographic work done by Peter Holm Jacobsen, which he undertook in connection with his PhD dissertation (Jacobsen, 2014). In this section, I first reiterate some of the methodological considerations Jacobsen voices in his dissertation to show that our approaches to doing ethnographic research resonate. This is important, because having the same sense of what counts as empirics, 'truth' and solid research matters when collaborating closely. Failing to have comparable idea of such matters, can result not only in tense and unproductive

collaboration but, more importantly, unscientific and incoherent conclusions. In this, I also list his concrete interactions with his empirics. After this, I describe how we collaborated in analyzing and making sense of his empirics as well as writing the article. This is especially necessary here as it is not particularly unfolded in the article presented in Chapter 7. Last, I will reflect on some of the possibilities and potential pitfalls of writing together in this manner. In this sense, this section can also be read as an elaborated methodology of the article presented in Chapter 7.[16]

Jacobsen's reflections and concrete interactions

In his dissertation, Jacobsen does not explicitly talk about 'interaction' with an empirical field, at least not in the sense that I do above. Instead, he draws on the notion of 'analytical strategy' to maintain a focus on his 'position as researcher' (Jacobsen, 2014, p.54, my translation). He writes that 'data and empirics are not things I pick up as mushrooms in the forest' (p.55, my translation). He continues to argue, that research is a practical phenomenon that always unfolds with others and that 'the researchers' participation possibilities are partly given and partly negotiated throughout the concrete study' (p.56, my translation). Among others, he draws on the work of critical psychologists Axel (2002) and Højholt (2001). Even though Jacobsen has a stronger focus on the participatory effort of the researcher, in overall terms his and my approach on how to conduct empirical research resonates: although we draw on different vocabularies, our understanding of the active and non-neutral role researcher remains the same: for both of us 'data' is something that is co-constructed by the engaging researcher and therefore it is reasonable to compare our studies and findings and let them pollinate each other.

The overall empirical backdrop for Jacobsen's PhD research is approximately 3 months of ethnographic work he did in Summer 2011 (May – July). He was invited to follow and examine an architectural competition taking place in the upcoming Carlsberg City area. This competition was structured with dialogue as a central element, and it was therefore given that Jacobsen would somehow focus on how dialogue in the competition setup unfolded and

[16] As it will be unfolded, the article has been published as a book chapter. This setup did not allow for specific elaborations on how Jacobsen and I collaborated in establishing knowledge and therefore it is necessary to unfold and expand it here. Arguably, this section could have been added to in Chapter 7, but I prefer it in this chapter, so that the combined methodology of the dissertation is presented coherently and collected to both increase transparency and present a somewhat clear overview.

mattered. Therefore, he had designed his study accordingly: Observations (documented in field notes, sound recordings and digital photos), interviews with various participants (both semi-structured and informal) and official, written documents.[17] The observed events are listed in table 3.2 below.

Date	*Description*
3rd of May, 2011	Information day including an on-site tour
6th of May, 2011	Evaluation of the information day
12th of May, 2011	Planning of Kick-off event
30th of May, 2011	Kick-off event
8th/9th of June, 2011	*First ideas*: First workshop, 4 teams, each consisting of 5 different architectural companies
15th/16th of June, 2011	*Concept development*: Second workshop, same participants as above
23rd/24th of June, 2011	*Presentation*: Third workshop, same participants as above
2nd of July, 2011	*Presentation*: Jury negotiation
4th of July, 2011	Jury selection

Table 3.2: observation events in Peter Holm Jacobsen's (2014) dissertational research

Between these formal meetings where Jacobsen participated primarily as an observant making fields notes and taking pictures, he also conducted informal interviews with various participants to get a deeper understanding of the case and to get a richer understanding of issues he became aware of through his observations. He elaborates how he at one point continues to chat with a competition advisor after a meeting, thereby gaining important perspectives on matters raised at the meeting. Perspectives that were not voiced at the actual meeting. Many of Jacobsen's insights are built on knowledge gained in this informal way. However, he also draws on more formalized interviews, as he conducts what he calls 'follow-up' interviews. Jacobsen conducts seven of these follow-up interviews, which he defines as semi-structured (Kvale & Brinkmann, 2014). He writes that 'these interviews do not offer the concrete insights (as participant observation and informal interviews) in the situated design-processes. The semi-structured interviews open for post-rationalized perspectives on the process. The strength of this type of interview is that it gives the participants a possibility to reflect and offer perspectives on the process in hindsight' (Jacobsen, 2014, p.85, my translation). Also, the semi-structured interviews have given Jacobsen the possibility to

[17] All this is documented throughout Jacobsen's PhD dissertation, but specifically in the chapter on methods and methodology (Jacobsen, 2014, p. 73-87).

continuously raise the same themes, thereby gaining varying insights on the same topic. Last, for Jacobsen also document analysis has played an important role, as written (and drawn) documents including visualizations (master plans, competition briefs, urban space strategies) have played an important part in his analyses. For instance, when architects presented their plans, they used Power Point presentations to visualize these ideas and therefore it (also) becomes central to be able to analyze and understand this type of communication or dialogue. To do this, Jacobsen calls on a situated perspective on action and plans (Suchman, 1987), which resonates with my general pragmatic belief and approach through a focus on how practices are situated and particular, as they constantly happen in meetings between the social and the material. With this elaboration of Jacobsen's basic ontological and epistemological position, it seemed reasonable for us to share our knowledge and collaborate in establishing academic knowledge.

Co-writing an article

The specific empirical backdrop for Jacobsen's and my co-writing is one particular workshop in the session called '*First ideas'*.[18] Evidently, Jacobsen is the 'empirical expert' between him and me, as he was the one 'out-there', examining what happened and how. Our knowledge of the empirical situation is far from symmetrical. Even though we fully acknowledged this and had no ambition of leveling this out, we both found it productive and necessary for me to examine transcripts of communication and digital photos as well as relevant presentations to get a feeling for what happened and how.[19] Also, the coding or what we could call 'the first analysis' of the empirics was done by Jacobsen, in the sense that he already before he began his dissertation project knew that he should examine how dialogue unfolded, as it was part of the setup of the dissertation. Furthermore, Jacobsen had already made efforts to understand the general situation we examined beforehand as it plays a (smaller) role in his dissertation. Our collaboration can be understood by drawing on the 'analytical interview' proposed by Kreiner and Mouritsen (2006), which is a type of interview between peers with different areas of expertise. Jacobsen had deep empirical knowledge of the Carlsberg City

[18] See table 3.2 above or figure 7.1 in Chapter 7 for further details.

[19] The material I gained access to in this manner was primarily related to the particular workshop we analyze. However, I have also more broadly had access to transcripts of communication and digital photos. Evidently, I have also read Jacobsen's dissertation and informally talked with him regarding his findings on several occasions.

case and evidently solid knowledge of relevant research on architectural competitions. I also had a solid knowledge of research on architectural competitions even if it was less specific to the Carlsberg Case, but instead more related to digitally based interactions and competition formats. Furthermore, I had deep empirical knowledge of the Innosite case. Combined, this meant that I could pose questions to Jacobsen in the 'language of architectural competition research' by being informed by a case that both had some similarities to and some clear differences from his case: Sharing 'deep knowledge' on both Carlsberg City and Innosite allowed us to sharpen what dialogue in competitions means by, for instance, asking who is participating in dialogue, how and through which media this participation is conveyed and what the consequences of this might be.

In practical terms, the article was written as a joint effort as both authors wrote on the entire article – it was not split up in sections with divided responsibilities. We discussed Jacobsen's empirical material and the theoretical approaches he had been employing in his previous work (Jacobsen, 2014). Then we discussed how we could revisit his material and establish new conclusions and suggestions based on his empirical work. Then Jacobsen drafted a version of the empirical description and some basic ideas for the analysis, which I read through, commented and added some reflections to. After this followed a 'back-and-forth' process, where we over a couple of months drafted a first version. As it was written as book chapter, the editors also suggested directions and themes to include.

Conceptually, my main contribution to the article was to insist on unfolding what happens when the assessment of proposals in a competition (i.e. the finding of winners) is changed from being based on criteria inherent to a particular proposal (for instance budget, feasibility and price) to also include more processual criteria: As it was unfolded above, the competition format was designed to include dialogue, which in concrete terms was done by incorporating a series of workshops, wherein participating architects and the jury board would interact (i.e. be in dialogue) with each other. I saw this 'dismantling' of the traditional boundaries between 'competition owner/decider' and 'competition participant' as very relevant, as it somehow resembled what was happening on the Innosite platform. This will be picked up below, when revisiting what it means to work case-based.

Pitfalls and potentials in co-writing

A potential pitfall of working together in this way is the described asymmetrical empirical knowledge. It is possible to discuss how empirical interactions could be interpreted, but in the end, it is the researcher doing the fieldwork who has the weightiest voice in making the necessary sense of the study. But empirical asymmetries are not the only issue is this regard, as asymmetries will almost per definition always exists in (academic) collaborations: if not regarding the empirical setup, then maybe in relation to how well-read different authors are in the literature or as a junior-senior relationship, where hierarchical power relations might play in. The question is not whether asymmetries exist, but whether they play a hampering or even 'unscientific' role. Neither of us experienced any asymmetry-based problems to explicitly cause problems and therefore – calling on a pragmatic-naïve approach – we argue that even though they exist, asymmetries did not affect our collaboration in a negative way. Another potential pitfall is not so much related to the collaboration between researchers, but rather to the fact that we were working to enlarge an empirical part of Jacobsen's research that had already had played a (smaller) part in his research. This made it important not merely to repeat his approach and reproduce his analysis and conclusion, but to develop some different and something more. We did this by first singling out a very specific part of the total empirical material and then – in focusing only on this instance – interrogate it with new analytical lenses. Following this, I argue, the most important promise of co-writing in the way Jacobsen and I did, is the possibility to 'revisit data', cross-fertilize and interrogate them with different analytical resources. For instance, we saw that whereas Jacobsen originally sought to understand the empirical situation in relation to an organizational learning perspective, it proved valuable for us to engage with the same empirics through a different perspective. Of course, it should be noted that it would be surprising – and call for more research – if two such analyses would result in conclusions that were either perfectly inconsistent or directly contradicting. As hinted at, Jacobsen in his dissertational work mainly ambitioned to explain the entirety of the Carlsberg City as a situated learning process, where architects learn to participate and engage with wicked design problems (Buchanan, 1992), whereas Jacobsen and I, focus on how the competition format produce new relationships between jury board and participating architects and therefore – potentially – new outcomes as well.

There is also a practical – but indeed relevant – argument for collaborating: doing empirical ethnography-based research is time consuming and therefore it is relevant to make sure that these hours spent in the field result in proper academic documentation i.e. articles, book chapters, books and so forth. Of course, many details are collected in huge ethnographic interactions and some of these will not qualify for academic reports, but it is relevant to consider if a given ethnographic-academic endeavor has resulted in sufficient reports; if all relevant and important insights have been passed on to the academic society at large.

To the best of my understanding there is no definite or formal way to avoid the pitfalls or redeem the promises of collaborating in the ways described above. Rather, my (and our) strategy is to (jointly) reflect on these in order to minimize the risk of the unwanted pitfalls and instead put us in a position that allows us to gain from the potential advantages.

Building a case of cases, step 2

Including two cases in the dissertation evidently provokes a reflection and explication of what it means to work cased-based in this manner and subsequently what the overall research project gains from such a case-based approach. Often, a research project that includes several cases aims to undertake a comparative analysis (Perrow, 1967; Porter, 1990) to for instance highlight differences or establish best practices (Gambrell, Morrow, & Pressley, 2007). My aim is not to search for best practices[20] or in other ways establish a traditional multiple case-study. Rather the ambition is to broaden the scope, and to be able to reflect and situate the primary case accordingly. Distinguishing between a primary and secondary case not only refers to the empirical investment, where I have been much closer or intimate with the Innosite case than the Carlsberg City case. The distinction is also made to imply that the findings from the Carlsberg City case is 'used' to strengthen the knowledge and understanding of the Innosite case – in other words that the Innosite case is the point of reference. However, this is not the same as arguing that the Carlsberg City bears no independent argument and contribution. This will show in Chapter 7, where the Carlsberg City case is explored. It is important to note that even though the articles presented in Chapter 5 and 6 both make references to arguments put forth in the Carlsberg City case article, this dissertation does not

[20] Such an examination could, for instance, be guided by an interest in which competition format would produce the most optimal relationship between aesthetic quality and invested resources. However, this is not within the scope of this dissertation.

include an article that explicitly works with both the Innosite case and the Carlsberg City case. The two cases are only explicitly brought together in the framework and therefore this bringing together – returning to a notion from Chapter 1 – become the *dependent* argument of the combined dissertation. In other words, working as I have with two cases both demands a focus on what is a stake in each of the cases as well as a focus on what is a stake between them.

The aim is not to test or develop theory as such from the cases, but rather for them to serve as descriptive and illustrative cases of something new (Thomas, 2011). But what can then be learned from the cases? And to whom? Which literatures are addressed and what kind of 'field' is established by elevating and focusing on these two particular cases? Evidently, the concrete or empirical answers to these questions will be unfolded in the second part of the dissertation (the chapters comprising the articles and the conclusion), but importantly this opens an immanent conceptual issue of working case-based: the question of generalisability. 'Case' has roots in the Latin 'casus' (Merriam-Webster, online) and in English it has acquired meaning close to 'set of conditions' or 'specific circumstances' (Merriam-Webster, online). With this, we see how it becomes a central issue when working case-based in an academic sense to reflect on what can be learned from these 'specific circumstances' – what is the mode of inference (Peirce, 1878). Flyvbjerg (2006) argues that it is possible to generalise from (single) case studies. However, he also states that, 'formal generalisation is overvalued as a source of scientific development, whereas "the force of example" is underestimated' (Flyvbjerg, 2006, p. 228). As I am inspired by pragmatism, the question of generalisability is to some extent bracketed, as knowledge is always situated and local – the outcome of an inquiry into a field is always bound to that particular inquiry. Therefore, generalisability is not a major theme in this dissertation. Instead, the focus is on elaborating how I have interacted with and in the field, and then describe in depth what I have found, before suggesting which literatures could benefit from knowing my findings.

As already touched a bit on, I distinguish between my cases on two dimensions: empirical investment and conceptual relevance. Regarding the first, it is clear that I have a much greater intimacy with the Innosite case and therefore that the Carlsberg City case is different with regards to how well I know the setting, the concrete challenges and the day-to-day issues and everyday life related to the case. However, regarding conceptual relevance, the two cases

exist in a more equal plane. Here they contribute equally in an interrogation of novel competition setups in the Danish building industry: together they work to highlight aspect and dynamics and together they provoke me to pose questions in a certain way: it is my reliance on the two cases, that allows me to formulate the research question ('How are crowdsourcing and architectural competition technologies organised to create answers in architecture and the building industry?') as I do.

In concrete terms – and in hindsight – it is difficult to put my work on the two cases into a causal relationship in the "this particularity in case A allowed me to see this particularity in case B"-form. Especially, since I was working on and with both cases simultaneously, it seems reasonable to argue that they both (in isolation, but particularly underlined when seen together) have influenced how I see these new competition formats. They both dismantle traditional boundaries between 'competition owner/decider' and 'competition participant' (with a varying degree of formality). In the next chapter, I establish the notion of 'organisational technologies', which is my effort to examine crowdsourcing and architectural competitions as comparable, organisational phenomena. To situate this notion of organizational technologies in the relevant academic debates, I read two distinct literatures: research on crowdsourcing and architectural competitions to establish academic conversations partners for my project. However, first, a small outro in which I reflect on the notion of 'theory'.

A few words on theory as outro

I have already touched upon a possible distinction between philosophy and science – the first is concerned with concepts and the latter with theoretical systems. As I argued above, I do not view pragmatism as an anti-theoretical or anti-intellectual movement. Along these lines, Deleuze elaborates his understanding of theory in relation to practice:

> The relationship between theory and practice are far more partial and fragmentary. On one side, a theory is always local and related to a limited field, and it is applied in another sphere, more or less distant from it. The relationship which holds in the application of a theory is never one of resemblance. Moreover, from the moment a theory moves into its proper domain, it begins to encounter obstacles, walls and blockages which require its relay by another type of discourse (it is through this other discourse that it eventually passes to different domain) […] Practice is a set of relays from one theoretical point to another and theory is a relay from one practice to another […]

> Representation no longer exists; there's only action – theoretical action and practical action which serve as relays and form networks.
>
> (Deleuze in Foucault, 1977, p. 206)

In the above quote, Deleuze is well in line with the pragmatic view that theory and practice are more closely bound together than traditional ideas of inductive and deductive reasoning sometimes suggest. In the next chapter, I continue to develop my local theoretical approach by adding a more concrete perspective to the tapping hammer suggested above. Thus far, the hammer has primarily been built with methodological intentions. The next chapter adds to the tapping hammer, by moving theory it 'into its proper domain'.

PART I

The main purpose of this chapter is to find conversation partners. It does this by first establishing the notion of 'organisational technologies' and then reading the relevant literature on crowdsourcing and architectural competition literature.

What is the purpose of doing a literature review? Reflections on this question set the scene for this chapter and below I propose some answers. Recalling the main research question where I asked how crowdsourcing and architectural competition technologies are organised, the task in this chapter is to establish a landscape in which this question can be satisfyingly and meaningfully answered. To practically guide this, I posed the sub-question 'how can crowdsourcing and architectural competitions be examined as organisational technologies?' Therefore, I first aim to answer the sub-question and after that, to find specific conversation partners.

For some, reviewing literature is a matter of creating a firm foundation for advancing knowledge by closing areas in which an abundance of research already exists and with that also – hopefully – opening areas in need of research (Webster & Watson, 2002). For others, a literature review is an effort to clear up misunderstandings and inconsistencies by offering a collected reading of a domain, a concept or a phenomenon (i.e. Garcia & Calantone, 2002). Some stress the importance of a 'systematic approach' and transparent method for reviewing (Petticrew & Roberts, 2006) and – building on this – it is discussed how and to which extent a review must contain a quality assessment of the particular literature (Jesson, Matheson, & Lacey, 2011). Hart (1998) concludes that there is no such thing as 'the perfect literature' review as it is always written from within a tradition with a certain reader in mind. I find inspiration in all these comments, but I want to stress the performative element of establishing a literature to review and therefore I follow Justesen when she argues that 'the demarcation of a research domain is not naturally given, but a construction that partly depends on the [research] project's problem and strategy of analysis' (Justesen, 2008, p. 22 my translation). She continues to argue that finding and choosing the relevant literature therefore becomes a matter touched by some contingency, in the sense that 'the relevant literature' not is something that exists prior to or isolated from the research's problem and strategy. Following this I find inspiration in the metaphor of the dinner conversation: if I (my project) was to talk with scholars and researchers for a full dinner, who would I then invite to the table to get the very most of it and have the best conversation with. Evidently this metaphor needs unfolding as these different dinner guests can play different roles, which brings me back to the purpose of the literature review mentioned above. I understand the literature review as an effort to establish the scholarly landscape in which answers to the

research questions unfolds, i.e. how and to whom answers are given, and – as it is also suggested (Jesson et al., 2011; Petticrew & Roberts, 2006) – an intimate relationship between research question and literature review must be established. However, also critical voices have been raised that the research question should not be too intimately linked with the literature. Alvesson and Sandberg argue that when a research question is constructed through a (too) close reading of the literature, this will not be likely to result in 'interesting theories' (Alvesson & Sandberg, 2011, p. 266). They argue elsewhere that many organisation scholars reviews 'existing literature with the aim of spotting gaps in the literature and, based on that, formulate specific research questions' (Sandberg & Alvesson, 2011, p. 28). Against this practice of reading a literature to spot unexplored gaps, they draw on Dewey (1938) and especially Foucault, when suggesting problematization as an 'endeavour to know how and to what extent it might be possible to think differently, instead of what is already known' (Foucault, 1985, p. 9). Problematization thus becomes an activity of carving out and questioning underlying assumptions in order to 'formulate more informed and novel research questions (Sandberg & Alvesson, 2011, p. 32).

Two major practical strategies of undertaking a review exists; either a deductive inspired search, where relevant journals are identified and key search words are used to find the relevant literature (Vom Brocke, Simons, Niehaves, Niehaves, & Reimer, 2009). The other more inductive method is found in the 'snowball' approach, where key literature is read for references to establish 'network' of literature in a outwards spiralling effort (Baltar & Brunet, 2012; Noy, 2008). In practice, I have used both these methods insofar that I have both identified key journals, which I have searched through using various search words and search strings and at the same time – through recommendations, courses, random searches – I have come across key articles, from which I have 'snowballed' by browsing both reference lists as well as examining who have cited this key article.[21] An important reason for combining snowballing with the deductive approach is that especially crowdsourcing has been a contested word that – at least in early phases – was not used by all scholars examining the activities hiding under the label (Hirschman, 2013). A prominent example of this is Jeppesen and Lakhani (2010), who did not use 'crowdsourcing' but instead relied on 'broadcast search'

[21] This is a technical feature in both Google Scholar and Scopus.

which is a well-known term in innovation studies. Other words that can cover activities I take interest in, include 'distance search', 'digital innovation intermediary', 'digital innovation contests' and 'digital idea generation'.

Writing with a clear interdisciplinary focus it is not only difficult but can even be misguiding to merely establish a batch of journals in which the relevant literature (supposedly) is published: important literature is sometimes published in books and even magazines, but furthermore key contributions are often published 'outside' the traditional domain journals – the strategy of defining a batch of journals to read through would come in short here. That being said, I do not aim to read the entire literature on this topic. Instead, I aim to first sketch the broad tendencies and then identify particular earlier work, which my work can enter into a conversation with. Before reading the literature, I suggest the notion of 'organisational technologies' to analytically bring crowdsourcing and architectural competitions abreast. To establish this, I first unfold my understanding of 'technology'.

What we talk about when we talk about technology

> Think of architectural competitions as a form of technology. A technology is a tool or procedure that will enable us to do or achieve something intended. This tool, this procedure is deliberately designed based on a knowledge and experience of how the world works, and how people behave. Because the world is complex and people are unpredictable, technology contains many smaller sub-elements that each handle a particular aspect of the task, sub-elements that work together or against each other when someone tries to use a technology. Architectural competitions have become a very complicated technology.
>
> (Kreiner & Jacobsen, 2013, p. 17, my translation)

This long quote by Kreiner and Jacobsen is what initially sparked my interested in understanding crowdsourcing and architectural competitions as technologies. As much as I find it both well-put and thought-provoking, I also feel that it is lacking specificity, for instance what are the consequences of understanding architectural competitions as technologies. In regards to my specific inquiry, I am also interested in whether we can understand crowdsourcing as the same kind of technology. Therefore, one of the tasks this chapter embarks on is to nuance Kreiner and Jacobsen's understanding above. This nuancing will be informed partly by analytical operations and partly by reading the domain literature.

The pragmatic tradition focuses on activities and consequences, which is why (avid Dewey reader) Hickman sidesteps an actual definition of technology. Instead he instead talks about 'technological activities' as activities that involve tools and artefacts and demands 'cognitive or deliberate inferential activities' (Hickman, 2001, p. 17). He opposes this both to activities that do not involve tools and to activities that involve tools in a habitual way, which he calls technical (2001). Dewey argues that 'technology' is best understood as a particular way of interacting in and with the world by making it 'more useful to our purposes' (Hickman, 1990, pp. 37–38). In Dewey's terms, interaction with and in the world is an 'inquiry' and he 'makes the word technology largely synonymous with [t]his key idea [of inquiry]' (Birkbak, 2013, p. 7) that is, technology as an inquiry with the world or a certain knowledge of the world. I agree that giving an a priori definition of 'what technology is' is less relevant (maybe even problematic), than a focus on how tools are put to work or 'how we use things' and what the outcomes of this usage is. Below, I elaborate how this pragmatic understanding has also informed the field of science and technology (STS) where technologies are (also) not seen as something discrete, demarcated and variable, but rather 'continuous' and interwoven in and with social practices

As a tradition, STS is diverse and multi-facetted and – as it is common in interdisciplinary work – has many beginnings. Key contributions at the onset include 'the Social Shaping of Technology' (MacKenzie & Wajcman, 1999 [1985]), 'The Social Construction of Technological Systems' (Bijker, Hughes, & Pinch, 1987) and the earlier 'Laboratory Life – the Social Construction of Scientific Facts (Latour & Woolgar, 1979). From these titles, an immediate understanding of the tradition is offered: an examination of the interplay between the social and the technological. STS can be understood as a reaction against understanding technology as variable and discrete (as it is argued in Svenningsen, 2004). In both contingency theories (such as Lawrence & Lorsch, 1967; Perrow, 1967) and the Giddens-inspired structuration approach (Barley, 1986; DeSanctis & Poole, 1994; Orlikowski, 1992), technology is seen as given and stable as they operate with an understanding of a particular 'technology's internal logic' (Svenningsen, 2004, p. 44 my translation).

As hinted at, STS scholars argue that technology must be seen and examined as socially embedded that is, technology is not something naturally demarcated, but rather it is interwoven in practices, work and society. Therefore, the practical study of technology within

the STS tradition becomes a matter of making (new) distinctions, as they do not naturally exist: if a technology cannot simply be reduced to ('the internal logic' of) a mobile device, a lean management tool, or digital platform, then how can we study these phenomena in a meaningful and productive manner? With this in mind, studying a particular technology always demands a reflection of how demarcations between technology and not-technology are made (or with Dewey: what are the relevant practices to inquiry into?). Some argue that objects in this manner can be both plastic and robust at the same time, allowing different communities to interact with and through them (Bowker & Star, 1999; Star & Griesemer, 1989). In STS, this 'plasticity and robustness of objects' is sometimes addressed in a discussion of the constitutive role of technology. Sometimes it is argued that technology *shapes* society, sociality, action and so forth, other times social forces or groups *construct* technology. From the pragmatic perspective, the varying degrees of influence is less relevant, or maybe even an impossible question, because in this tradition the role of a technology is found in the concrete inquiry.

Actor-Network Theory (ANT) (Callon, 1986; Latour, 1987, 1996; Law, 2009) springs from – among others – STS, pragmatism, ethnomethodology and newer French philosophers like Deleuze and Foucault. As STS, ANT also takes interest in the study of (a) technology, for which it calls on certain principles, the most radical and arguably infamous being the symmetrical approach, here explained by Callon:

> We require the observer to use a single repertoire, when they are described. The vocabulary chosen for these descriptions and explanations can be left to the discretion of the observer […] given the principle of generalized symmetry, the rule which we must respect is not to change the registers when we move from the technical to the social aspects of the problem studied
>
> (Callon, 1986, p. 199)

In ANT this single repertoire is most commonly the actor-network; a flat ontology network that connects actors with other actors (or "actants" (Latour, 1996) as it is sometimes called to remind us of "the single repertoire" i.e. humans and things having the same ontological status). Law emphasises how the construction of meaning is relational when he states that 'it is better to talk of 'material semiotics' rather than 'actor network theory. This better catches the openness, uncertainty, revisability and diversity' (Law, 2009, p. 142). ANT (or 'material semiotics') has an extended focus on the role of materiality in understanding how the life and

practices play out, and the argument – along STS/ANT scholars – is that in studies of the social, the material has either been neglected, taken for granted and/or been treated as black box (Latour, 1992).

In the cross-section between information systems studies and organisation studies, the notion of 'sociomateriality' has gained traction. This tradition builds on the STS/ANT tradition as well as a Foucauldian tradition as it reiterates a focus on inseparability, entanglement, day-to-day understanding of technology and materiality in organisations (Jones, 2014; Orlikowski & Scott, 2008). Orlikowski and Scott have examined for instance how algorithms work to shape organisational practices and crowd behaviour (Orlikowski & Scott, 2015). Related to the concept of sociomateriality is the notion 'digital materiality' which address the 'materiality' or 'tangibility' of digital tools as something else than the 'physicality' of traditional material tools. (Leonardi, 2010; Yoo, 2012).

Drawing on these schools of thought, the dissertation's understanding of technology is as a practice that involves making (a) tool useful for particular purposes and that this 'particular purpose' must be included in the concrete inquiry as a reflection on demarcation (i.e. a reflection on which practices that are relevant and therefore must be included in the examination – and with that necessarily also which practices that are not relevant in understanding the technology). With this in mind, I will now expand – or rather specify – this understanding as I establish 'organisational technologies'.

Organisational technologies

For Foucault (1988) the notion 'technologies of the self'' is a focus on how the self is composed and continually held together. He identifies four different types of technologies[22], and his notion of governmentality is the result of 'contact between technologies of domination of others and those of the self' (1988, p. 19). In organisation studies, this has been

[22] Foucault (1988) writes that 'there are four major types of these "technologies", each a matrix of practical reason: (1) technologies of production, which permits us to produce, transform, or manipulate things; (2) technologies of sign systems, which permit us to use signs, meanings, symbols, or signification; (3) technologies of power, which determines the conduct of individuals and submit them to certain ends or domination, an objectivizing of the subject; (4) technologies of the self, which permit individuals to effect by their own means or with the help of others a certain number of operations on their own bodies and souls, thoughts, conduct, and way of being, so as to transform themselves in order to attain a certain state of happiness, purity, wisdom, perfect or immortality' (1988, p. 18). He argues that these technologies rarely function separately.

picked up in several traditions – for instance Critical Management Studies (CMS) and Human Resource Management (HRM). It has been central in establishing the notion of 'self-management' (Bjerg & Staunæs, 2011) and 'management technologies' (Davies & Bansel, 2010; Åkerstrøm Andersen & Thygesen, 2004). I am inspired by the latter concept, even though I will point in a somewhat different direction with 'organisational technologies'. Where management technologies focus on how subjects are managed and made manageable, the focus I establish is on how technologies make organisation (possible). With this, I position myself close to Muniesa et al., when they argue that a 'market device' is that which 'renders markets possible' (Muniesa, Millo, & Callon, 2007).

To begin the discussion about what 'organisational technologies' can be, I let Leonardi (2010) point towards the difficulty of "in the first place" to understand what 'an organisation' is.

> If someone asked you to point you finger at an organization, at what would you point? Would you point at a person? A group of people? What about the sign reading "XYZ Corporation" carefully placed on the lawn in front of an office building? How about the office building? Would you point your finger at desks? Computers? Conveyor belts?
>
> (Leonardi, 2010, p. 2)

To sidestep this tricky question of what constitutes (an) organisation, I align myself more with Latour when he argues that if we make essential claims about what an organisations *is,* then we can only talk about it as marked by these claims: we can only 'speak *about* organisations' (Latour, 2013, p. 38). As a strategy to get closer to organisations' agency, Latour suggests that researchers ask what the organisational story is, which can be done by speaking organizationally, i.e. to somehow adopt the language from (the practice taking place) inside the organisation. He elaborates this by claiming that 'organisations – the things – are the phantoms that appear when organizing – the mode – disappears' (Latour, 2013, p. 44). To close in on this 'organising' I turn to Weick (1969), who was among the first to suggest a focus on activities and processes, or in more general terms, to add *time* to the understanding of organisation. For Weick and the process approach 'organizing is thus an ongoing encounter with ambiguity, ambivalence and equivocality' (Czarniawska, 2013). Weick defines organising as 'the resolving of equivocality in an enacted environment by means of interlocked behaviours embedded in conditionally related processes' (1969) and Hernes builds on this to

argue that a process approach is something more than notions of 'change, disorder, freedom, innovation, multiplicity, chaos and creativity' (Hernes, 2014, p. 4).

> To say that everything flows is first and foremost an ontological stance that challenges us to look for how flows are stabilized, bent, or deflected. It is precisely such a stance that invites study of how different forms of stabilization come about, including seemingly robust forms such as bureaucracies.
>
> (Hernes, 2014, p. 4)

Understanding flow (or time) as an ontological premise (and as something more than 'change, disorder, freedom, innovation etc.) resonates with my ontological foundations, and therefore I agree that it is relevant to understand organisation in relation to 'stabilisation, bending and deflection' of flows. Following Hernes and Latour, I understand organisation as a series of attempts to stabilise[23]. A key point in my argumentation is that attempts to stabilise is exactly what 'organisational technologies' do. In this sense, for instance PowerPoints (Kaplan, 2011), lean whiteboard management (Hauge, 2016) or organisation charts (Vikkelsø, 2016) can work to stabilise. Based on these examples one might think that the notion of 'organisational technologies' refers to only tangible phenomena. However, here Hickman's (2001) distinction between the technological and the technical is relevant: technological activities are those that involves deliberate and cognitive-demanding engagement with tools, whereas the technical is mostly habitual. In discussing the 'nature' of these tools, Hickman draws on Dewey to explain that for the mathematician 'we must count her tools and artefacts, such as pi and the square root of minus one on the same footing as the tools and artefacts of any other profession' (Hickman, 2001, p. 407). With this in mind, organisational technologies are not necessarily tangible. It can also be strategy meetings (Jarzabkowski & Seidl, 2008), email culture (Lucas, 1998) or algorithms (Neyland, 2015; Totaro & Ninno, 2014). Summing up, organisational technologies work to stabilise, compose, pull together or render organisation (possible) and some organisational technologies have obvious material components whereas other are more intangible.

We still need to make an important distinction to understand for instance how algorithms, email culture and PowerPoints work to make organisations. To do this, I first suggest an

[23] In relation to for example innovation the interesting then becomes to understand how the organisation destabilises and the stabilises (differently) again.

analytical distinction between *organisational* technologies and *organising* technologies: *Organising* technologies work in much broader terms to organise, i.e. to order, arrange and/or connect particularities into a social order. In terms of scope, such an organising technology is comparable to the notion of an actor-network (Callon, 1986) only the (Deweyan) notion of technology would be the 'single repertoire' as that which organises the social. For instance, examining 'email culture' as an organising technology, would not imply specifically looking for how it renders organisation (possible), but also how it, for instance, (re)draws distinctions between work and leisure time or how it installs 'instantaneousness' in society.

With 'organising technologies' as the broad term, I turn to make 'organisational technologies' a more specific and useful term, which I – following Latour above – aim to do without exhaustively defining what an organisation 'is'. To do this, I borrow terms from Eriksson-Zetterquist, Kalling and Styhre (2011) and the work of Du Gay and Vikkelsø (Du Gay, 2015; Du Gay & Vikkelsø, 2016; Vikkelsø, 2015, 2016). In the research programme 'what makes an organisation' the latter draw on and re-introduce classic organisation theorists such as Wilfred Brown and Chester Barnard to be able to 'speak organisationally'.[24] In reading these authors (and other from the 'what makes an organisation' research programme) I find that 'coordination' (Vikkelsø, 2005), 'division of labour' (Eriksson-Zetterquist et al., 2011, p. 244ff) and 'core task and purpose' (Vikkelsø, 2015) and 'organization objectives' (Lopdrup-Hjorth, 2015) are some of the most relevant topics that 'organisational language' revolves around. Du Gay and Vikkelsø (2016) refers to Latour (2013) when noting that their strategy for 'talking and acting organizationally' (2016, p. 148) involves the concepts of task and purpose:

> What is a given organization's task and how – through what coordinated arrangement of means – is it to be fulfilled under given circumstances? Pursuing this question will not lead us away from, but closer to, an organization's reality – its organizational reality – we suggest. Task and purpose are conceptual devices for unfolding and exploring this reality
>
> (Du Gay & Vikkelsø, 2016, p. 148)

[24] In terms of ontology, in can be argued that the work of Du Gay and Vikkelsø (as a 'practical-normative stance') differs from the one I have been establishing. However, I am not interested in fusing ontological or epistemological stances, by rather to – pragmatically – search for topics that are relevant in understanding organisations or as Latour puts it, in learning to speak in an organisational manner.

Adding concrete topics central in 'speaking organisationally' I can now answer the sub-question of how crowdsourcing and competitions can be examined as organisational technologies. Crowdsourcing and architectural competitions can be examined as organisational technologies when they (for instance) establish or allocate roles, suggest a division of labour between these roles and install tasks, purpose and reward structures in order to render organisation (possible). A shorter – but also more open for interpretation – answer could be that crowdsourcing and architectural competitions can be examined as organisational technologies by speaking with them in an organisational manner. This is what I aim to do in the three articles presented in the part II.

It might be protested that a conceptualisation of organisational technologies in this way is different to a traditional pragmatic approach. Here it is important to note, that I have aimed not describe *what* an organisational technology is, but rather *how* it works. The ambition with the conceptualisation is to elaborate on Kreiner and Jacobsen's (also pragmatic) understanding of technology presented above, but also to specify what I mean by 'organise' in my main research question. Hopefully, I have nuanced what it means to work with technology as a concept – and hopefully I have substantiated my approach by adding the prefix *organisational.* In a sense, the ambition with the first part of this chapter was – drawing a line back to both Wittgenstein and Deleuze as presented in Chapter 3 – to clear out misunderstandings (or at least to suggest clarification) by creating an operational concept. In the conclusion, I draw this notion to answer the main research question. One might also ask whether a phenomenon works as an organisational technology or if it is an approach by the researcher to study a phenomenon as an organisational technology. For me, this suggested distinction between research object and researcher subject is collapsed in the pragmatic tradition. Not as an epistemological-analytical operation but as a pragmatic-methodological consequence of how an inquiry always is particular as the specific output of the researcher's interactions with and in the field: a phenomenon is an organisational technology when it is studied as such (which not is the same as arguing that *any* phenomena meaningfully can be studied as an organisational technology).

In the next two chapters I will read the relevant literature on crowdsourcing and architectural competitions, respectively. I read these two literatures separately, as I have only been able to find one article that explicitly involves both crowdsourcing and architectural competitions,

which is of very little relevance to my project.[25] Also, when presenting key conversation partners, I will reference to how and where I address this 'conversation' in my articles in Part II.

Crowdsourcing

As already touched upon, crowdsourcing is varied phenomenon as the vast body of literature also testifies to. From the period 2006 to 2017, Google Scholar returns approximately 45.000 hits and from the more focused academic search engine Scopus the number is 7.245 document results and when these publications are categorised according to publication date we see that it is a phenomenon on the rise in the academic world (see diagram 4.1). [26]

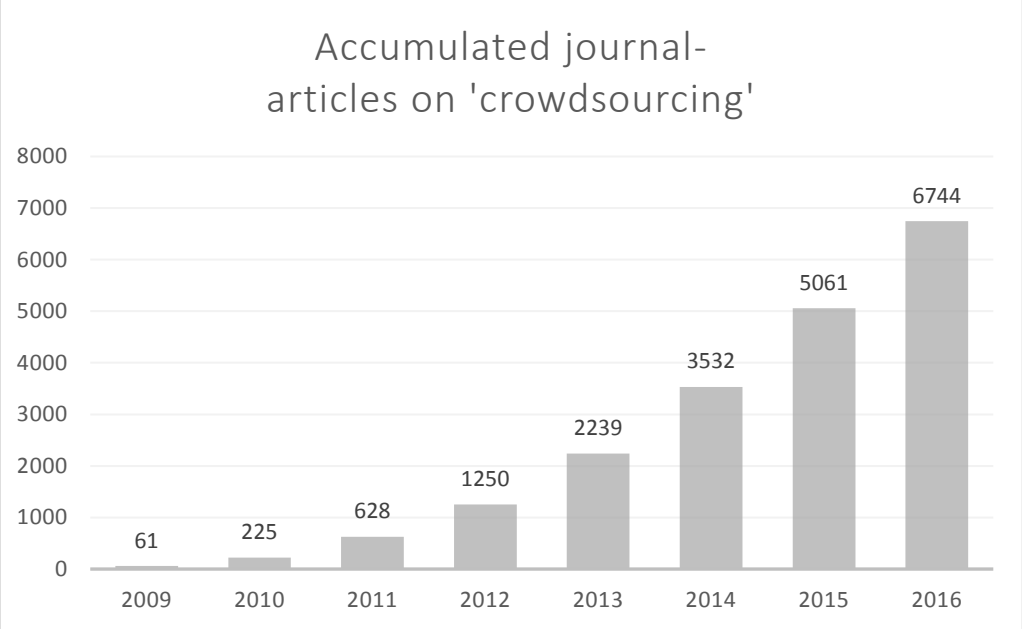

Diagram 4.1: Scopus search on articles containing 'crowdsourcing' 2009-2016 (accessed 12 June 2017)

[25] Newton and Backhouse (2013) describe an architectural competition which is based on crowdsourcing to make the call. They focus on the online possibilities for making the call international and thereby involving more architectural firms. The most interesting point regarding my cases is that they jury meetings took place online on a web-based portal, through skype-sessions and email. This contrasts with Innosite, where jury members could be active online during the competition, but the formal jury meeting always took place in physical meetings. However, they do not elaborate on if and how this 'online jury meeting' made a difference, as they focus on crowdsourcing as simple tool for making an internet-based open call.

[26] Google Scholar and Scopus accessed 8 July 2017 at www.google.scholar.com and www.scopus.com respectively.

According to Scopus, 2.103 of these documents are articles published in journals and in the table below (table 4.1) I present the most influential (in terms of citations) including articles with 100 or more citations.[27]

Title	Journal	Citations
Conducting behavioral research on Amazon's Mechanical Turk	Behavior Research Methods	774
Crowdsourcing as a model for problem solving: An introduction and cases	Convergence	682
Learning from crowds	Journal of Machine Learning Research	405
Citizen science as an ecological research tool: Challenges and benefits	Annual Review of Ecology, Evolution, and Systematics	373
Towards an integrated crowdsourcing definition	Journal of Information Science	360
Crowdsourcing geographic information for disaster response	International Journal of Digital Earth	300
Leveraging crowdsourcing	Journal of Management Information Systems	290
Evaluating Amazon's Mechanical Turk as a Tool for Experimental Behavioral	PLoS ONE	268
The value of crowdsourcing	Journal of Product Innovation Management	260
Web mapping 2.0: The neogeography of the GeoWeb	Geography Compass	237
Using mechanical turk to study clinical populations	Clinical Psychological Science	207
Harnessing the crowdsourcing power of social media for disaster relief	IEEE Intelligent Systems	201
Outsourcing to an unknown workforce	MIS Quarterly: Management Information Systems	200
From e-government to we-government	Government Information Quarterly	197
The viability of crowdsourcing for survey research	Behavior Research Methods	194
Affective News and Networked Publics	Journal of Communication	183
Moving the crowd at threadless	Information Communication and Society	182
Decisions 2.0: The power of collective intelligence	MIT Sloan Management Review	178
Crowdsourcing new product ideas over time	Management Science	174
Assuring the quality of volunteered geographic information	Spatial Statistics	174
Crowdsourcing the public participation process for planning projects	Planning Theory	165
Norms of valence	Behavior Research Methods	156
Nanotechnology in the real world	Beilstein Journal of Nanotechnology	151
Age-of-acquisition ratings for 30	Behavior Research Methods	149
Crowdsourcing geospatial data	ISPRS Journal of Photogrammetry and Remote Sensing	149
CrowdER: Crowdsourcing entity resolution	Proceedings of the VLDB Endowment	147
Community engineering for innovations	R and D Management	143
Nonnaïveté among Amazon Mechanical Turk workers	Behavior Research Methods	138
Task design	International Journal of Electronic Commerce	123
Crowdsourcing with smartphones	IEEE Internet Computing	121
NeoGeography and the nature of geographic expertise	Journal of Location Based Services	121
Designing ranking systems for hotels on travel search engines	Marketing Science	115
Moving the crowed at iStockphoto	First Monday	109
Crowdsourcing	Journal of Information Science	109

[27] I have chosen to use the Scopus search engine for practical reasons: it is this search engine I am most acquainted with and feel most competent to use. Others are for instance Web of Science and Science Direct. If not interested in journal searches, impact searches or 'completeness searches' the crowdsourced upload in Mendeley is very promising for finding thematic articles.

Increased Diels-Alderase activity through backbone remodeling	Nature Biotechnology	109
Human-powered sorts and joins	Proceedings of the VLDB Endowment	109
Promoting transparency and accountability through ICTs	Transforming Government: People, Process and Policy	109
Geo-Wiki: An online platform for improving global land cover	Environmental Modelling and Software	107
Cloud-based design and manufacturing	CAD Computer Aided Design	104
Mobile phones democratize and cultivate next-generation imaging	Diagnostics and measurement tools	101

Table 4.1: Most cited 'crowdsourcing' articles from Scopus (accessed 08 June 2017)

As it shows from this crude overview, the academic landscape engaging with and examining crowdsourcing is both growing and diverse. The 41 articles with more than 100 citations are published in 34 different journals. This picture continues throughout the 2.103 published articles, as they are found in more than 1000 (!) different journals[28]. Browsing through abstracts, a substantial part of the articles treat crowdsourcing as a method, in the sense that crowdsourcing is the premise that produces results, which are then examined and/or compared (see for instance Eiben et al., 2012; Goodchild, 2009; Vance et al., 2015). Also, some of the articles are either meta-studies or conceptual work (Brabham, 2008; Estellés-Arolas & González-Ladrón-de-Guevara, 2012; Majchrzak & Malhotra, 2013). More specific and recurrent topics are for instance 'crowd behaviour and motivation' (Bayus, 2013; Crump, McDonnell, Gureckis, Romero, & Morris, 2013; Zheng, Li, & Hou, 2011) and crowdsourcing that draws on the spatial location of crowd members (Fritz et al., 2012; Goodchild & Li, 2012; Haklay, Singleton, & Parker, 2008). In short, the focus I suggested through the notion of 'organisational technologies' excludes many of the most cited articles as direct conversation partners for my project, because they do not address (neither explicitly or implicitly) how crowdsourcing works as a stabilising technology that renders organisation (possible). Before I narrow my search, I find it relevant to recapitulate how I understand crowdsourcing and which distinctions from the literature, I find it meaningful and productive to work with and expand.

Specifying crowdsourcing take 1: as competition

As mentioned I follow Estellés-Arolas and González-Ladron-de-Guevara (2012) to understand crowdsourcing as involving a central formulated task and a decentralized group of people who are engaged in and with this task. The interactions between these take place online.

[28] I exported the search inquiry from Scopus to a spreadsheet, removed 'source' doublets and counted the number.

However, this basic understanding can and do contain many different practices, and therefore several distinctions have been suggested. Arguably the most known is introduced by Howe (2006) when he coined the word. Howe sees four different types of crowdsourcing practices based on contributor characteristics: the professional, the packager, the tinkerer and the masses. Later, it has been proposed to shift the focus from characteristics of crowd members and their skills, to the 'nature' of the tasks solved or how the interaction between the central and the decentral plays out. For instance, 'crowdsourcing micro-tasks' (Kittur, Chi, & Suh, 2008), 'e-participation' (Silva, 2013) and 'crowdsourcing competition' (Afuah & Tucci, 2012) have been suggested. Micro-tasks uses time to make distinctions, as it refers to a type of tasks that can typically can be solved within 'minutes or even seconds' (Kittur et al., 2008, p. 1). Micro-tasks are tasks, which humans solve better and/or faster than computers and algorithms, like for instance identifying emotions on human faces or participating in online surveys. There is a flat-rate return in the sense that completing a micro-task earns the participant an agreed (often very small) salary. E-participation refers to, for instance, the crowdsourcing of politics (Aitamurto, 2012; Kornberger, Meyer, Brandtner, & Höllerer, 2017) or science projects (Nov, Arazy, & Anderson, 2010). A defining characteristic is that participants receive no (explicit) compensation for participation. Last is the crowdsourcing competition (sometimes known as tournament-based crowdsourcing), which is organised around a competition where only the winner/s receives a compensation. To summarise, I suggest a typology (table 4.2) based on the reward structure.

Reward structure
No (explicit) reward (for instance e-participation)
Every contribution is rewarded (for instance micro-tasks)
Competitive; only the winner is rewarded (for instance tournament-based)

Table 4.2: tentative typology of crowdsourcing

I take interest in platforms designed to use crowdsourcing in a competitive manner and therefore, I am not interested in 'micro task' and 'e-participation'. Regarding the typology presented above, it is important to note that rewards can include – but is not limited to – monetary prizes. My understanding of 'reward' is broad: when positive distinctions are made so that one idea is highlighted, I understand it as (a) reward.

Together with the typology presented in table 4.2, I narrowed my examinations by doing three parallel things: I 'snowballed' from articles I had discovered and identified as important, such as Schlagwein and Bjørn-Andersen (2014) and Kornberger (2016); I combined 'crowdsourcing' with other search words (for instance 'crowdsourcing AND organisation', 'crowdsourcing AND core task' and 'crowdsourcing AND platform' and 'crowdsourcing AND competition')[29]; and I did a Scopus search on crowdsourcing, exported the findings to a spread sheet and organised the findings in accordance with 'journals' to examine if journals traditionally interested in organising and organisation studies had published articles on crowdsourcing.[30] Again, I did not do this to establish a complete overview of all published research, but rather to find interesting conversation partners for my inquiry. On the basis of these efforts, I am now able to enter a dialogue with key contributions in order to examine crowdsourcing as technology that renders organisation (possible).

Crowdsourcing as searching and learning

Addressing how crowdsourcing works as a way to search for new knowledge, Jeppesen and Lakhani (2010) examine how marginality, or the 'distance between the solver's field of technical expertise and the focal field of the problem' (2010, p. 1016) influences the chance of finding proper solutions to formulated problems. They find that there is a positive correlation as the distance grows (and also very interestingly that women – supposed to 'be in the "outer circle" of scientific establishment' (2010, p. 1016) – perform significantly better). These findings raise some questions when seen in relation to the platform I examine. First, the establishment of 'fields of technical expertise' is difficult on the platform I have been examining: even though different professions such as architects, engineers, urban planners, sociologists and craftsmen are active in the crowd, it seems like a strenuous if not futile task to establish an unambiguous causal relation between a particular profession and, for instance, a particular working method. Also, it would be difficult to claim a certain distance between these professions, or to put it more provocatively: would such a distance be the premise or finding of such an inquiry? Last, my platform does not as such categorise the different challenges according to particular competences in the crowd.

[29] For the entire combination of search words I used to guide my inquiry, see appendix A

[30] For a summarising of journals with five or more articles including either crowdsourcing in the title or as key word, see appendix B

Afuah and Tuccis (2012) follow the lead from Jeppesen and Lakhani (2010) and argue that given the right organisational circumstances, crowdsourcing is a way to 'improve the efficiency and effectiveness of problem solving' (Afuah & Tucci, 2012, p. 355). However, they continue to specify that these right circumstances 'depend on characteristics of the problem, the knowledge required for the solution, the crowd, and the solutions to be evaluated' (Afuah & Tucci, 2012, p. 355). This resonates with my situated understanding of crowdsourcing. Bloodgood (2013) specifically relates to the work of Afuah and Tucci and points towards another relevant topic: it matters *how* these problems are solved and that problem-solving should be undertaken only in order to capture value, i.e. problem-solving must have a purpose. Piezunka and Dahlander (2015) push this idea forward as they examine how organisations "deal" with suggestions and solutions originating from outside the organisation. They argue that (also) organisations have limited attention span and that given a large pool of suggestions, organisations 'are more likely to pay attention to suggestions that are familiar, not distant' (Piezunka & Dahlander, 2015, p. 855). This branch of research focuses on crowdsourcing as way to deal with particular *problems* posed, as it examines crowdsourcing as a search process to find answers to these (Jeppesen and Lakhani does not explicitly use the notion 'crowdsourcing' even though their case study, InnoCentive[31], envisions itself as a crowdsourcing platform[32]).

With another focus, Bjørn-Andersen and Schlagwein (2014) set out to theorise the relation between crowdsourcing and organisational learning, as they examined how LEGO experimented with a crowdsourcing platform from 2010 to 2014. They argue that LEGO 'benefitted by learning both "with" crowdsourcing (e.g., how to change business and products) and "about" crowdsourcing (e.g., how to improve crowdsourcing)' (2014, p. 758). This distinction is important as it points not only to the concrete learnings regarding 'how to crowdsource' but to how crowdsourcing is a practice, which happens in an organisation. Bjørn-Andersen and Schlagwein show how the platform affects both direct and indirect

[31] InnoCentive accessible at www.Innocentive.com

[32] On InnoCentive's main page it is stated that 'Out Challenge Driven Innovation ™ methodology and purpose-built technology results in fresh thinking and cost-effective problem solving. Crowdsource solutions from our diverse network of highly educated problem solvers or internally within your organization' (Innocentive, 2017). Arguably, this is because the research article by Jeppesen and Lakhani was written before Innocentive began to use 'crowdsourcing' to describe what they are doing.

organisational learning, and make the important contribution that IT not only supports organisational learning but 'plays an "enabling" role' (2014, p. 771).

Picking up on this interest, Fayard, Gkeredakis and Levina (2016) examine how culture matters when organisations engage with 'crowdsourcing for innovation' (see also Majchrzak & Malhotra, 2013). They investigate how two innovation companies encounter crowdsourcing and consider using it as a tool for innovation. They show how one company chooses to continue to work with crowdsourcing as way of generating new knowledge, whereas the other company rejects it. They connect this to what they term an 'epistemic stance of organisations' (2016, p. 304) , i.e. how new knowledge (and organisational learning) is conceptualised by actors in organisations: This is highly relevant as it not only connects IT-practices and crowdsourcing in particular to the rest of the organisation but also generally shows how culture (in my case this would be the architectural world and building industry at large) plays an important role when organisations engage with new IT-practices.

Specifying crowdsourcing take 2: as competition to find best answers

It is now necessary to explain and elaborate an important distinction that has (mostly implicitly) appeared through the reading above: Even though an overall focus on 'crowdsourcing as competition' has been maintained, there is a difference between crowdsourcing as 'searching for solutions' (Afuah & Tucci, 2012; Jeppesen & Lakhani, 2010) and 'crowdsourcing for innovation' (Fayard et al., 2016; Majchrzak & Malhotra, 2013). A task formulated as a problem to which the response is framed as 'as the correct solution' is different from a task formulated as a challenge to which the response is framed as 'the best possible answer'. This is important when finding the winners of crowdsourcing competition. In the first type of interaction (searching for the correct solution) the 'truth value' already exists as an internal relationship between problem and solution, and therefore finding the winner can be reduced to more 'measurable' and non-ambiguous criteria such as "who uploaded the answer first" or other quantitative benchmarks. In the latter (searching for the best possible answer) a third-party is needed to decide. This type of task could, for instance, be to select the best t-shirt design or choose an architectural blueprint with most aesthetic quality. This distinction is important because the platform I have been examining is designed as a crowdsourcing competition that selects the 'best answer' as the winner. With this in mind, I expand the typology presented in table 4.2 above, as I split the third category into two

(see table 4.3). This typology based on reward structure is also the typology I draw on in the article presented in Chapter 6.

Reward structure
No (explicit) reward
Every contribution is rewarded
Competitive; rewards the correct solution to a problem (i.e. Innocentive)
Competitive; rewards the best answer to a challenge (i.e. Lego Ideas or Innosite)

Table 4.3: typology of crowdsourcing based on reward structure

As mentioned, crowdsourcing for innovation has been suggested as a way to understand when crowdsourcing works to 'make new', but I find this 'for innovation' not to be helpful in my case insofar as many things can be (deemed) innovation. I prefer the more pragmatic focus on how the platform is designed to reward those who participate on it.

Important contributions across the domain

In this section I present key conversation partners scattered across the domain literature. They do not as such have thematic relation (besides from the fact that they are concerned with crowdsourcing). I have aimed to create a flow by selecting an order presentation that aim to let contributions be seen in continuation. Sometimes this has been difficult as they are somewhat scattered. As far as possible, I have also aimed to relate the presented themes to my articles presented in primarily Chapters 5 and 6.

Kornberger (2016) suggests a framework for how 'innovation systems' such as crowdsourcing can be understood and analysed by focusing on (organisational) design. To do this, Kornberger aims to 'shift the unit of analysis of organization design [of distributed innovation systems] from the individual firm to a network of actors' (2016, p. 1) and he suggests three points of attention: Interface design, design of participatory architectures and design of evaluative infrastructures. According to Kornberger these three design mechanisms can be used to analyse how 'firms and other network actors organize their encounter in "the open" and through which they manage communication, coordination of tasks, and control' (2016, p. 1). Regarding 'interface design' Kornberger follows Simon (1996) to argue that interfaces are meeting points between 'internal and external environments' that 'structure the interaction between different parties by organizing the exchange of information' (2016, p. 7).

One example is how the email offers three recipients: direct receiver, copied in and blind copied. Another example is the "like" feature made popular by Facebook and integrated in many other digital interfaces. In Chapter 5, I examine how practices on a crowdsourcing platform are shaped by the interface design. Regarding participatory architecture, Kornberger argues that 'rather than organizing internal differentiation [in contrast to a hierarchical design architecture] and integration, architectures of participation provide a design mechanism for the integration of external production' (2016, p. 8). Therefore, participatory design architectures structure collaboration by more open production processes and the task of the researchers then become to examine how such participatory designs are open (see chapter 5). Regarding the evaluative infrastructures, Kornberger defines them as methodologies and technologies of valuation that are distributed across innovation networks. Drawing on Espeland and Sauder (2007), Karpik (2010) and Orlikowski and Scott (2014) he gives examples of ranking, ratings, reviews, tagging, best-sellers lists and awards. The input for these evaluative infrastructures can be both users, experts, algorithms or a mix hereof. Kornberger argues that 'virtually anything (downloads, citations, references, etc.) can serve as raw material for valuations. And, since everything leaves a trace, virtually every activity can be translated into an input for a higher level evaluation' (Kornberger, 2016, p. 11). In the article 'Moments of valuation in crowdsourcing' (Chapter 6) I aim to answer Kornberger's call for research on evaluative structures on crowdsourcing platforms. In a concluding note Kornberger suggests diplomacy as a metaphor for understanding how a crowd can be managed, namely by the work of a diplomat:

> Diplomacy is a potentially fruitful metaphor for describing management in "the open" because historically the power of diplomacy evolved in inverse relation to the demise of the power of the sovereign. Foreign cultures had to be decoded diplomatically because they could not any longer be firmly oppressed or safely ignored. In other words, diplomacy marks the sovereign's tacit acknowledgement that the world is polycentric
>
> (Kornberger, 2016, pp. 14–15)

I take particular interest in this quote, as it points towards the practice of the community manager, which my ethnographic suggests plays a decisive role. In Chapter 6 I unfold how she works and suggest the curator metaphor as a way to understand how she works to 'manage in the open'.

This focus on how to manage (or organize interactions with) a crowd has been – in arguably more tangible ways – examined elsewhere in the literature. Chan, Dang and Dow (2016) examines how real-time facilitation can improve the quality and usefulness of inputs coming from crowdsourcing. They find that 'expert facilitation successfully increased the crowd's convergence (more iteration on ideas, higher creativity of ideas) without sacrificing divergence (higher quantity of ideas, equivalent diversity of ideas)' (Chan et al., 2016, p. 1233). However, they also find that there is a big difference between using 'expert' and 'novice' facilitators, as the latter results in the ideators (i.e. crowd members) not benefitting 'when guided by inexperienced facilitators; rather, facilitated ideators generated less valuable and creative ideas than unfacilitated ideators' (Chan et al., 2016, p. 1229). This is highly relevant to my case as I take interest in the interplay between the community manager and the crowd.

An important contribution in regards to my examination is captured in the concept 'communitition' (Hutter et al., 2011), which address the tension between competition and collaboration in an online environment. The authors draw on the notion of 'co-opetition' (Brandenburger & Nalebuff, 1996) which is a portmanteaux of cooperation and competition. Communitition address how some digital platforms are designed to afford both cooperation and competition between the members. The article is based on statistical examinations of a digital platform that hosts an open competition design. By defining different modes of interaction, the authors suggest four different user types: the passive observer, the competitor, the co-operator and the communititor, where the latter is someone who – in the digital community – both engage in 'competitive as well as co-operative behaviour' (2011, p. 13). The paper conclude that 'ideas submitted by communititors […] show a higher probability of being highly ranked by community evaluation and winning' (Hutter et al., 2011, p. 16). Even though these findings are based on a platform design that affords community in a much higher degree than the platform I have examined, the idea of combined cooperation and competition is central.

As explicitly pointed out by Afuah and Tucci (2012), crowdsourcing is a situated phenomenon that – among others – depends on the crowd. This crowd dependency is described by Erickson, Petrick and Trauth (2012). They underline the need for linking organisational needs to the right crowd and after establishing four organizational themes (marketing; productivity;

service Innovation; knowledge capture) they describe which crowd would be best suited to help in each of these areas. To do this, they establish three characteristics of the crowd (type of knowledge; diverse or large crowd; internally or externally located), which they then relate to organisational needs. This work is highly relevant as it points out that crowds are differently composed. In almost all work on crowdsourcing, the crowd is a 'presumed entity' that has either has or lacks certain properties, i.e. can solve or not-solve certain question. However, I argue that the crowd is not something that exists already, but rather it is an achievement. I do not address this explicitly in my analyses, but I do conceptualise the crowd as a constant achievement. I return briefly to this in the closing of Chapter 8.

In an interesting attempt to understand crowdsourcing in relation to a broader (organisational) perspective Palacios, Martinez-Corral, Nissar and Grijalvo (2016) draw on institutional logics to build a model that suggest to examine both the 'micro, meso and macro-level institutional work' (2016, p. 1835) as relevant components, where the micro-level is the platform and the 'solvers' (the crowd), the meso-level involves the 'seeker' (competition owner) and organisational factors and the macro-level is code of conduct, ethics, policies and so forth (Palacios et al., 2016, fig. 1). Even though this work suggests an ontological stance distinct from mine, it is interesting to note how they ambition to place the platform not only in an organisational context but also in a societal context. They argue – and that supports my findings – that most research have taken interest in the micro level and that future research should 'work beyond the micro-level to include meso-level and macro-level into the discourse' (Palacios et al., 2016, p. 1838). In a sense, this last argument resonates with my findings from browsing through the vast literature that by far the most work focuses on answering 'what' and also 'why' questions (in regard to crowdsourcing), and to a much lesser degree 'how' questions. I will expand this even further to argue that the 'how' is closely related to examining design properties of the particular platforms and that research into this particular area is lacking. In Chapter 5 I use the notion of affordance to 'get close' to the particular platform by posing 'how crowdsourcing?' questions.

Also aligned with my approach are Zuchowski, Schlagwein and Fischbach (2016) when they set out to examine whether 'internal crowdsourcing' constitutes 'a new form of organizing in theoretical terms (or, for example, "just another channel" in the communication mix)' (2016, fig. 6). Internal crowdsourcing is crowdsourcing that is not open for all. Instead, potential

crowd members will need an invitation. In their case, they examine two platforms launched internally in a large multinational company and the invitation to participate is given to all employees of this company. Drawing or classic organisation theorists such as Lawrence and Lorsch (1967) and March and Simon (1958), the authors set out to examine if and how division of tasks, task allocation, reward distribution and information flow differ between 'prior organizing form and internal crowdsourcing' (2016, table 1). They find that (especially) organising through 'open calls' instead of 'fixed assignments' constitutes a real difference regarding organisational practices and work. Here, the distinction between open calls and fixed assignments are somewhat comparable to my distinction between 'the best and the correct'. They examine the preconditions and consequences of open call organising where an important findings is that 'the organization needs to have problems that can be broken down into "crowdsourceable" tasks' (2016, p. 8).

This concludes my select reading of the literature on crowdsourcing. Below I will present relevant work in relations to 'architectural competitions'.

Architectural competitions

In contrast to crowdsourcing, research on 'architectural competitions' is a much more confined field. From Google Scholar "architectural competition" returns approximately 5.500 hits and for the plural version ("architectural competitions") returns approximately 3.300 hits[33]. In establishing an overview of this literature, I draw on the 'snowball' (Noy, 2008) approach to a higher degree than in the reading of 'crowdsourcing' above. Having worked closely with Peter Holm Jacobsen, my entry into this part of the literature is shaped by his work, and especially his work with Kristian Kreiner (for instance Kreiner & Jacobsen, 2013; Kreiner, Jacobsen, & Jensen, 2011). Therefore, I began by exploring and mapping their references and from there spiralling outwards. As Justesen (2008) points out, this strategy has some drawbacks, as one might miss important contributions. One of the issues she addresses is that searching through references in this manner means that you will only find literature older that the text your departed from. Here, it is important to note that new technical database possibilities in both Scopus and Google Scholar have made it possible to examine work that cites a given article. Therefore, the snowball rolls both towards the past

[33] www.scholar.google.com, accessed 8 July 2017

and the future, so to speak. I have identified some key journals,[34] which I have searched through for relevant contributions. Also, I have browsed through the knowledge bank found at Centre for Management Studies of the Building Process (Clibyg, 2017). For the Google Scholar and Scopus searches I have – in the same manner as with crowdsourcing – combined 'architectural competition' with other search words.[35] Last, I have learned that much research on architectural competitions is published in anthologies (Andersson, Bloxham, & Rönn, 2013; Chupin, Cucuzzella, & Helal, 2015; Rönn, Andersson, & Kazemian, 2010; Strebel & Silberberger, 2017). I regard such anthology compilations as 'snowball' possibilities: when discovering a relevant chapter in an anthology, I browse through the other contributions to examine if relevant topics appear.

Much research on architectural competition takes interest in understanding how winners are found, most often by focusing on the work of the involved jury boards and on how they arrive at their decisions (see for instance Silberberger, 2012; Svensson, 2013; Van Wezemael, Silberberger, & Paisiou, 2011). However, also other roles involved in the architectural competition such as the client (Kreiner, 2007a; Kreiner & Gorm, 2008; Volker, 2010) and the architects[36] (Kreiner, 2009; Kreiner & Gorm, 2009) are described. Some attention has also been given to the role of end-users (Våland, 2011) and expert advisors (implicitly in Jacobsen, 2014; Kreiner & Jacobsen, 2013).

Another common interest has been how architectural competitions are organised in terms of possible participation and how this participation unfolds. Traditionally, the distinction has been between the open competition and the invited (or 'prequalified') competition (Kazemian & Rönn, 2009; Rönn, 2009, 2012; Svensson, 2013), where the principal difference is that every interested (architectural) party can participate in the first, whereas the second involves a qualification-round or participation-by-invitation. Both the open and invited competition format can be and is often combined with anonymity between participants and jury, so that 'small and young practices have an equal opportunity to succeed alongside the more established alongside the more established ones' (Merikoski & Eräranta, 2015, p. 43).

[34] For the complete list, see Appendix C
[35] For the complete list, see Appendix D
[36] I do not as such take interest in architectural work and practices as they take place 'outside' the architectural competition (see for instance Styhre, 2010).

Recently other types of competitions have been organised and practiced. For instance, competitions including formalised dialogue between participations has been subject for examinations (Jacobsen, 2014; Kreiner et al., 2011; White, 2014). I will return to this below.

Last, I see a tradition of using 'objects' as focal points in the literature on architectural competitions. For instance, there are analyses of competition briefs (Stang Våland, 2009), master plans (Jacobsen, 2014), assessment criteria (Kreiner, 2009), models (Sørensen, Frandsen, & Øien, 2015), visualisations (Jacobsen, Harty, & Tryggestad, 2016; Spallone, Turco, & Sanna, 2009) or even 'architectural quality' (Kornberger, Kreiner, & Clegg, 2011; Rönn, 2011).

Finding specific conversation partners in this domain literature has not been as scattered a process as the it was regarding 'crowdsourcing'. First theme relates to participation and the second to how winners are found. This is also the themes in my Chapters 5 and 6, respectively. Last, I present a couple articles that do not especially relate to these themes but are deemed relevant nonetheless.

Participation: open or invitation-based

As mentioned there are two types of (logically) distinct possibilities for organising participation in architectural competitions. Either they are open for all or they require an invitation. Kazemian and Rönn (2009) argue that in open competitions, it is 'usually easy to arrive at handful of especially interesting design corresponding to basic competition tasks' (2009, p. 181), but continues to argue that 'one solution seldom is superior on all counts and aspects' (2009, p. 181). Therefore, it is considered to be more time consuming to find and select the final winner and therefore also potentially more resource-demanding. It is commonly argued that the open competition format is decisive in the establishing of new drawing offices as they often consolidate and become formal firms after winning a competition (see, for instance, Dirckinck-Holmfeld, 2016). In that sense, the open competition is what brings the *new* into the *existing*. In a concrete study, Svensson (2012) shows the time consuming work of the jury in an open competition, as they have to meet five times before they are able to jointly select a winner. In relation to rewards (prizes), Kazemian and Rönn (2009) note that in open competitions it is not only the selection of a winner that is important,

but also runners up and honourable mentions appointments are key as they typically also receive monetary rewards or important recognition.

To understand the particularities of the invitation-based competition Rönn (2012) in an important empirical work, unfolds the process: First organisers make an invitation, to which interested architectural firms reply with an application. This application and the firms' general credentials are then analysed, before ultimately the teams are selected and invited to participate. In Rönn's (2012) examination, approximately on tenth of the applicants are invited to enter main competitions and once invited to participate, there will normally be an economic compensation to all firms as flat-rate fee (evidently the winner will also be rewarded the project and the matching budget). Rönn concludes that the single most important reason for organisers to select an invite-only competition format is related to complexity as it aims for 'high quality architecture' (2012, p. 12). On a closing note, Rönn delivers an important analytical distinction regarding how competition organisers or clients can try to influence or control output, as he suggest the notions ex-ante and ex-post, where the first means 'ahead of time', the second 'afterwards' (2012, p. 12). Here, ex-post refers to the jury's assessment and the ex-ante to the setup of the competition, including who can participate. This distinction is highly relevant when trying to understand the practices on the Innosite platform, because – as it will be shown in Chapter 6 – important decisions are both made on the platform during a competition (ex-ante) and in the dedicated jury meeting (ex-post).

Finding winners in dialogue-based competitions

Kreiner has made several important contributions to understanding how the architectural competition plays out and especially how winners are found. I will in particular discuss his work relating to decision-making processes of juries. In an important work (Kreiner et al., 2011) the – back then novel and still rare format of the – dialogue-based competition is examined. This is a competition where interactions between participants and jury are coordinated by design. In the particular case, the dialogues were meant to 'accelerate processes of clarification and learning, and to enable the contestants to implement changes and improvements during the development of their final design entries' (2011, p. 160). By observing a two-day workshop of coordinated interactions between jury and architects, the work of the architect teams during the entire process, as well as all jury meetings and jury

deliberations, including the final selection of the winner, Kreiner, Jacobsen and Jensen show how these dialogues have effect. In specific term, it became possible for the jury members to develop and expand their understanding based on input from several teams, and therefore a proposal which at one (early) point seemed optimal, suddenly (with the expanding knowledge of the decision-makers) became less optimal. By narrowing in on this, the authors show that feedback works in many ways and does not necessarily result in better alignment and better results for all involved parties. Both the platform and the architectural competition I have been examining involve dialogue between crowd and jury, and architects and jury respectively, and therefore this work by Kreiner and colleagues prompts me to focus on the particular organising of these coordinated interactions. This is focus area both regarding the Innosite case (Chapter 6) and the Carlsberg City case (Chapter 7).

In another important work on how decisions are made, Kreiner (2012) examines how jury members with professional (i.e. architectural) background make choices based on professional intuition and then uses jury meetings to construct a causal relationship between their choices and the assessment criteria. He writes that 'the outcome [i.e. picking a winner] seemed to be the starting point and the premise for the process rather than its culmination' (Kreiner, 2012, p. 423). Kreiner shows in detail how the professional architects appointed to the jury seems to be making up their minds very early in the process, as he points to a decisive moment in the beginning of the competition process, where the jury was presented with physical models of the various proposals. According to Kreiner the jury members with a professional background as architects (experts) make the choices faster that the laymen who have 'no intuition to rely on and therefore needed other ways of developing preferences and forming opinions concerning the three alternative design proposals' (2012, p. 409). In generalising this finding, he continues to argue that 'not every competition will end as the studied one, but rather they will *start* with a choice preceding the process of choosing' (2012, p. 410). Before the jury assembles in their final meeting to select the winner many choices have already been made. If we expand this to not only include decisions made by jury members, we can see that it also matters how the competition is designed. For instance, the choice of having dialogue-based competition matters. And it matters, as Rönn showed, whether important decisions are (formally or informally) made ex-ante or ex-post. With this, it becomes difficult to maintain a traditional understanding of the architectural competition

taking place and unfolding in clearly demarcated phases that plays out in sequential order. Especially the selection process is traditionally presumed distinct from the other phases in order to maintain a sense of transparency and fairness of the competition.

A brief comment on demarcation

As it appears in the literature reading above, I have chosen to read 'close' to my empirical field in the sense that the readings spring from the search words 'crowdsourcing' and 'architectural competitions' respectively. I could have extended the search to different literatures. For instance, I could have consulted the Computer Supported Collaborative Work (CSCW) literature on how computers (in a broad sense) help to coordinate (Schmidt, 2010; Schmidt & Simonee, 1996), or the Human Computer Interaction (HCI) tradition in order to examine how design matters when man and machine meet and interact (Rogers, Sharp, & Preece, 2011). I could also have consulted the sociology of competitions in order to understand how competitions play out and work as organising principle in broader perspectives (Davies, 2014; Gane, 2014). I could have grounded my readings in organisations studies focusing, for instance, on 'decision making' (Cohen, March, & Olsen, 1972).

There are good reasons for relating my project to all these traditions and the list could probably be much longer. However, what I have aimed to do above, is to establish a basic understanding that will allow for a sufficiently educated reading of each of the three articles. I have aimed to do this by maintaining the thematic focus on crowdsourcing and architectural competitions, respectively. The three articles presented below draw on different analytical resources inspired by pragmatism (affordance theory, valuation studies and a situated perspective, respectively), but also on competition-based crowdsourcing and dialogue-based architectural competitions as unfolded above.

PART II

Part two mainly consists of three articles, which together constitute the analytical body of dissertation. Before each of these articles there will be framing and a brief elaboration on how they individually aim to contribute to the research interest. This second part – and with that the dissertation – will be concluded with a joint discussion of the findings from the three articles to answer the main research question and elaboration of different contributions, advice to practitioner and possible future research.

In 2014, I wrote a conference paper ('Crowdsourcing for Innovation: design valuation as a sociomaterial practice'), which was presented at the 23rd Nordic Academy of Management. After this presentation, I continued to develop it, which eventually led to the text being split in two. These two articles are singled-authored and presented in Chapter 5 and Chapter 6, respectively. Both these articles are based on empirical material from the Innosite platform. While writing on these two articles, I wanted to explore other forms of competition in the industry, so when an opportunity to write with Peter Holm Jacobsen occurred, we agreed to write an article where reflections from my empirical work was fused with his case-study material. This work is found in Chapter 7.

PART II

CHAPTER 5 Article 1

What is open? When crowdsourcing meets the architectural competition

A version of this article has been submitted to 'Nordic Journal of Architectural Research'

CHAPTER 6 ARTICLE 2

CHAPTER 7 ARTICLE 3

CHAPTER 8 CONCLUSSIONS

Frame: What is open?

As mentioned above, looking through my material it was evident that openness is an important theme. Both decision-makers at DAC and the platform design company were inspired by the 'open innovation' paradigm (Chesbrough, 2003) in envisioning and designing the platform; the community manager continuously emphasised that 'easy access and open and inviting communication to reach everyone' (Observation, 14 July 2014) was a key concern in the daily operations of the platform and from my observations of the platform, issues concerning access, possibility to participate, collaboration and (open) access to all data were themes that all somehow relates to openness. Furthermore – as we have seen – openness is a recurrent theme in the organising of the architectural competition, and especially in relation to innovation where the idea is, that 'outsiders' are prone to offer new perspectives. Therefore, this article explores how practices informed and shaped by different understandings of openness play out in concrete situations on the platform and what these 'play outs' result in.

What is open? When crowdsourcing meets the architectural competition

Table 5.1: table of content

What is open?

When crowdsourcing meets the architectural competition

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Abstract

This paper examines how crowdsourcing works as novel type of competition in the building industry. Crowdsourcing has been suggested as way to optimise both architectural output, process and efficiency as well as learning across competitions. Based on two years of ethnographic and netnographic field studies as well as several in-depth interviews, this paper uses *openness* as a point of entry, as it is both an important concept in architectural competitions and newer innovation paradigms. It takes interest how different understandings of openness play out when they 'meet' on a digital crowdsourcing platform. The analysis is carried out as an affordance analysis of the crowd members' interactions with the platform design. Four characteristics are established: 1) The platform has low barriers to entry; 2) it is easy to participate in the competitions; 3) the is virtually no interaction between crowd members and 4) crowd members appropriate earlier upload proposals by borrowing concept and ideas, in order to strengthen their own work. To specify how 'openness' plays out and comes to mean different things on the platform, the paper concludes by suggesting a grammar usable for both practitioners and scholars of crowdsourcing and architectural competitions.

Keywords

Openness, digital platform, crowdsourcing, architectural competition, affordance analysis, open innovation, ethnography

Introduction

In the building industry, the debate between choosing and open or invited architectural competitions is ongoing as prevailing arguments for both exist. For instance, it is argued that the open format is the fairest, most democratic way for clients to choose a design (Dirckinck-Holmfeld, 2016). Also, proponents of the open competition argue that it is the best way to sustain a highly innovative environment within the architectural field, as new architects have an opportunity to participate, to establish themselves and 'create a name', as the barriers to entry in the open competition are low to non-existent. Against the open competition format, it is argued that they are expensive and resource-demanding: many man-hours are invested in creating designs, organising competitions and selecting winners from the many incoming proposals, and the odds of actually winning a competition are close to negligible (Kazemian & Rönn, 2009).

In opposition to the open form of competition stands the invited architectural competition (Rönn, 2012; Svensson, 2013). In this type of competition, a client actively chooses who to invite to participate. An argument often made by clients and, at times, by architects is that invited competitions are more efficient because the likelihood of 'non-used' or 'wasted' labour is lower than in open competitions, and the clients know what they will receive. Therefore, to some extent, they know that they do not have to spend valuable time reading proposals that are not relevant or feasible. As mentioned, one downside of this 'invitation only' process is that is can be difficult for unknown architectural firms to find a foothold and also the general level of innovation is lower because the requesting firm only "gets what is requested". Regarding costs, it has been argued that the invited competition actually is more resource-demanding than the open, due to the handling of pre-qualification processes as well as the flat-rate payment to the all invited teams (on pre-qualification from either a client or architect perspective, see Kreiner & Gorm, 2008, 2009). In summary, the choice between an open competition and an invited competition can be understood as a question of balancing multiple concerns related to innovation and efficiency (Kreiner, 2010).

To suggest new ways of balancing such needs, the architectural associations in Scandinavian countries have developed a range of hybrid competition forms that are suited for certain

challenges. In Denmark, the Danish Association of Architects (DAA) has catalogued more than 10 types of competition, where one of the scalable dimensions is how open it should be.[37]

Furthermore, there is a tendency to keep developing and testing novel types of architectural competitions, which has had some interesting results. Recently, we have seen how interactions between client organisations and architects play out in more dynamic types of competitions, such as workshop- or dialogued-based competitions (Georg, 2015; Jacobsen & Kamstrup, 2017; Kreiner, 2012). Another interesting experimental type of competition is the interview-based competition in which the architects give an oral presentation in front of the jury without the support of drawings or other design materials. This type of competition reflects the ongoing discussion within research on architectural competitions about whether the result of a competition is a design or a designer (Bergdoll, 1989).

Novel formats often vary on either the level of openness or how interactions between jury and participants are organised, but all forms seek to find the optimal balance between different needs (innovation, creativity, efficiency, fairness, aesthetic quality and so forth). In choosing a particular competition, the client and the competition advisors together 'slide the bar' to find the setup satisfy for instance efficiency and creativity.

Crowdsourcing as an architectural competition?

However, recent technological advances promise both efficiency and innovativeness. This has been seen in the medical industry where web-based doctors (Hardey, 1999) and electronic patient journals (Svenningsen, 2002) have become increasingly important. Also, the building industry has seen new technological possibilities that promise optimisation as, for instance, business information modelling (BIM). In the US, the digital platform Arcbazar[38] has introduced crowdsourcing to the building industry and promises efficiency (i.e. cheap solutions) without compromising on innovative output. Crowdsourcing (Howe, 2006) can be seen as a technology-driven way of organising a competition that promises both speed and a reach beyond organisational boundaries. Crowdsourcing digitally engages people (both laymen and experts), primarily for idea generation but also in other innovation phases.

[37] For the complete list of competition setup supported by DAA, see https://www.arkitektforeningen.dk/Har%20du%20brug%20for%20konkurrencer%C3%A5dgivning/Find%20den%20rette%20konkurrenceform, accessed 11 June 2017.

[38] At https://www.arcbazar.com/, accessed 13 June 2017.

In this paper, I seek to understand what happens when a competition is hosted on a digital platform that is based on the idea of crowdsourcing, designed to be open to everyone, and on which registrants both collaboration and compete to win competitions. In other words, I examine how a crowdsourcing platform works in the building industry where interactions between actors traditionally are arranged according to 'architectural competitions'. The competitions on the platform are not architectural competitions in the legal sense, but they resemble practices taking place in traditional architectural competitions. More specifically, this paper aims to examine how the 'promise of the open' plays out on a digital platform explicitly designed to create innovation in the Danish building industry through crowdsourcing. In a sense, the paper responds to Dahlander and Gann's (2010) argument that the meaning of *openness* in innovation studies is under-studied. The case for the study is the Innosite platform operated by the Danish Architecture Centre. Based on ethnographic explorations (Fayard & Van Maanen, 2015; Neyland, 2008).

The structure of the paper is as follows. In the next section, I briefly consider how the understanding of openness has influenced both architectural competitions and innovation management. Thereafter, I introduce the case in order to clarify how the platform worked in practice. The concept of affordances is also presented, as the analysis is theoretically based on this notion. However, calling upon affordances also has some methodological implications that will be explained in the method section. The analysis follows, which is built on a close examination of the digital platform supported by insights gained from the ethnographic research, quotes from semi-structured interviews and screen dumps from the platform. In the discussion, a terminology to understand and examine crowdsourcing platforms is suggested.

Openness as an innovation principle

In this section, I briefly elaborate on the role of openness in both architectural competitions and in innovation management theory at large.

Openness in architectural competitions

The use of architectural competitions dates back to antiquity. As Lipstadt (2003) illustrates, architectural competitions were used by wealthy clients in northern Italy in the fourteenth century in the search for building designs that would demonstrate power and superiority. The traditional open architectural competition is anonymous and submissions are evaluated by a jury selected for the particular occassion (Kazemian & Rönn, 2009). In the open competition, the task and design problem is presented and described in a competition brief. To ensure

anonymity, the brief is the only communication between the client and the designer (Kreiner, 2007b).

The open competition is hailed for its ability to foster new and creative design solutions that a client does not consider before organising a competition and writing the competition brief. In addition, an open competition is assumed to be fair because no one party is favoured. Rather, the choice of a winner is based only on the quality of the proposal and therefore the open competition is considered to be most meritocratic form. However, proposals in open competitions are seldom realised. Empirical studies of architectural competitions (Merikoski & Eräranta, 2015) argue that these competitions are limited in their ability to develop solutions to the problems they are supposed to solve. A particular risk of the combinded open and anonymous competition is that clients with complex project run the risk of hiring an architect who excels in producing compelling stories through intriguing drawings and streamlined blueprints but lacks the capacity to transform the conceptual work into buildings and to collaborate efficiently with the many stakeholders in the building process.

After the open competition to design the new opera house in Sydney was launched, 233 entries were received. Among these was the iconic proposal from Danish architect Jørn Utzon. Utzon's collaboration with the entrepreneurs and contractors that actually built the opera house is notorious for being ill-conceived. In his book on the construction of the building, Murray advances the argument that as a 'direct result of the Sydney Opera House, open competitions have been used less and less with a growing preference for limited competitions where the organisers check architects' credentials before they invite them to participate' (Murray, 2004, p. 2). Without venturing into the complex process of designing and building the Sydney Opera House, it seems reasonable to claim that the openness of the search process and the ensuing acknowledgement of what in hindsight has been termed a truly innovative proposal influenced how 'efficient' the building process was.

As mentioned dialogue-based competitions (Jacobsen & Kamstrup, 2017; Kreiner et al., 2011) seeks to introduce openness in competitions as a learning process structured through dialogues between jury and participants (Jacobsen, 2014). Somewhat following this idea, it has also been suggested to introduce learning and openness 'between competitions'. One way of doing this is through framework agreements between clients and architects. Practitioners argue that such agreements work opposite to the ideal of the open competition format to hamper the general level of innovation (Heltoft, 2016) but the opposite has also been argued, in the sense that it is

the long-term collaborations and institutionalisation of the repetition that allows for innovation to develop in practice (Thomassen, 2017). This discussion shows how openness both is connected to innovating architectural quality and innovating efficient collaboration. As it will be shown below, the crowdsourcing platform I have examined aims to both introduce openness as broad and diverse participation and openness dialogue between participants as well as 'between competitions'.

Openness in innovation management

Schumpeter frames innovative activities as 'the doing of new things or the doing of things that are already being done in a new way' (Schumpeter, 1947, p. 151). He draws a distinction between the inventor and the entrepreneur, where the former is found in a lab or basement and has ingenious ideas, and the latter is the one who 'gets things done' (1947, p. 152). Inspired by this, Cohen and Levinthal put forth the concept of absorptive capacity, which refers to the ability to 'recognize the value of new, *external* information, assimilate it, and apply it to commercial ends' (1990, p. 128). They continue to argue that an organisation's ability to take in knowledge from the outside and make it 'its own' is crucial for its ability to innovate. In general, this outward-bound and open search process is emphasised as a key principle in the innovation process (see, e.g., Jeppesen & Lakhani, 2010). In line with this idea, Chesbrough (2003) suggests the term *open innovation* as a paradigm in which the ability to organise a company's environment to make it a resource is imperative. He defines open innovation as:

> A paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology.
>
> (Chesbrough, 2003, p. XXIV)

In recent years, the open innovation paradigm has gained traction. Arguably, its popularity is fuelled by new technological possibilities that allow companies to open up in new ways. This 'opening up' has followed technological and conceptual breakthroughs, especially those seen in IT and digital media starting in the 1970s. Open-source software communities and user innovation (von Hippel, 1986) are important milestone concepts. Both point to something outside the organisation (communities of experts and users, respectively) as key in the innovation process. The phenomenon 'co-creation' (Prahalad & Ramaswamy, 2004) has received attention recently, as a an approach to suggest how value is created by involving (potential) customers and other segments in different phases such as ideation, production and branding. The extent to which such phenomena and especially open innovation is a conceptual

'new wine in old bottles'(Trott & Hartmann, 2009, p. 715) is an ongoing discussion, but it seems reasonable to acknowledge that the proliferation of new technologies has had an impact on 'opening up', in the sense that actors outside an organisation can be invited to participate in innovative procedures in novel ways, for example through crowdsourcing.

Crowdsourcing takes place on a digital platform and revolves around a one-to-many-and-back logic (Brabham, 2013; Howe, 2006) in which a central actor communicates a challenge to a decentralised but organised crowd. That crowd, in turn, communicates answers to the challenge. In other words, crowdsourcing represents a structured method for connecting an organisation with the world and builds on the insight that knowledge from actors other than those the organisation normally encounters is important in the innovation process. As with open innovation, whether crowdsourcing is a new or old phenomenon is being debated: Even though many examples of pre-digital crowdsourcing phenomena have been suggested,[39] I view crowdsourcing as a phenomenon that takes place solely on digital platforms, as also suggested by Estelles-Arolas and Ladrón-de-Guervea (2012) in their review article. This view of crowdsourcing as a digital phenomenon entails a methodological precision that allows for a more distinct analysis and, ultimately, a more focused conclusion. Research on the crowdsourcing platform Innocentive[40] (Lakhani, Jeppesen, Lohse, & Panetta, 2006) found that challenges uploaded on this platform were more likely to be solved by someone not professionally trained in the domain to which the challenge 'belonged'. For example, a challenge defined as falling within the field of 'chemistry' was most likely to be solved by a crowd member whose field of expertise or educational background was far from the 'chemistry' category (Lakhani, Jeppesen, Lohse, & Panetta, 2006, p. 9). This highlights how opening up and involving external actors can be beneficial and that doing so seemingly has become easier given new technological developments.

As mentioned one of only few platforms to use crowdsourcing principles is Arcbazar, which aims to bring clients and architectural designers together by acting as an online marketplace for small- to medium-scale architecture projects. This paper explores another platform that is

[39] The most famous of these is the making of the Oxford English dictionary in the late eighteenth century; see http://www.wired.co.uk/article/the-oxford-english-wiktionary, accessed 11 June 2017.

[40] Innocentive is a US-based digital platform that aims to solve problems in math, chemistry, the physical sciences, biology, computer science, business, economics and engineering. It does so by digitally organized competitions in which a dedicated community of amateurs and trained researchers is exposed to certain problems. The incentive to participate is prize money of considerable size. See www.innocentive.com. Accessed 11 June 2017.

designed and operated different from Arcbazar but also defines itself as a crowdsourcing platform in the architectural world.

The Innosite platform

> Innosite is an open innovation platform, which connects players with a need for innovation with people who have great ideas
>
> Innosite, 2017

The object of study in this paper is the digital platform Innosite,[41] which was designed to foster innovations using certain technological and conceptual means. Innosite was active from 2011 to 2015 and was operated by the Danish Architectural Centre (DAC). It was primarily funded by the Realdania Foundation.[42] Both DAC and Realdania are concerned with the development of architectural practices and innovation in and of the built environment in Denmark:

> Open innovation platforms facilitate the involvement of users and experts in the development processes. This is because sharing, collecting and selecting ideas and solutions can be done both cheaper and faster than in traditional development and, moreover, independently of the individual project.
>
> Innosite, 2017

Inspired by the open-innovation paradigm, the platform adheres to the idea that technological improvements allows for not only balancing the needs differently in zero-sum game, but rather that for instance both efficiency and creativity can be optimised simultaneously without compromising other needs. As the quote shows, the idea generation facilitated by the platform was expected to have greater reach, to have the potential to be more innovative, and to be cheaper, faster and independent of the individual project. Especially the very last part is relevant as it refers to the discussion above, where 'openness between competitions' – it was argued – can allow for building on prior knowledge instead of starting over in each competition.

From 2011 to 2015, Innosite hosted approximately 25 competitions related to the building industry. Based on the wording of the competition briefs and the character of the incoming proposals, some of these competitions were comparable to architectural competitions in terms

[41] www.innosite.dk, accessed 11 June 2017.

[42] As Innosite was founded for a four-year period, the design and construction of the site, its daily operations, advertising and additional activities were all financed by one lump sum. The platform did not operate on "market terms" (i.e., it did not need income to pay costs). The amount received from the Realdania foundation was substantial, such that Innosite was the largest, most ambitious attempt to test and operate a crowdsourcing platform located in Denmark and situated in the building industry.

of scope, output and processes, while others could be compared to architectural competitions only in terms of the process. For example, the *Sleep Tight* competition was an idea-generation competition aimed at broadening the discussion of student housing in the major cities in Denmark, and the *Build What Here* was a competition aimed at designing and constructing a landmark at the popular Roskilde Music Festival in Denmark. These two competitions were comparable to traditional architectural competitions. In contrast, the *Trash or Treasure* competition was about finding new solutions to waste management in cities and had in terms of scope and output less in common with traditional architectural competitions.

All of the competitions arranged on Innosite were inspired by the principles of open innovation and crowdsourcing, which meant that they followed certain procedures. As it will be unfolded these procedures were shaped by both strategic ambitions, daily routines and 'the art of the possible' as the community manager of the platform puts in (Interview 2), as well as by the platform's design and technical setup.

Each competition began when the operating team uploaded a competition brief, which presented the challenge (most often in 50-100 words). The brief also elaborated on the context of the challenge and announced a deadline for submitting proposals. Finally, it described the assessment criteria that would be used to evaluate the proposals. After the brief was uploaded, it was visible to all registered users (or 'crowd members') and it was then possible to upload proposals. This type of public exposure and the lack of secrecy were design features deliberately requested by DAC, which wanted to address and challenge how intellectual property was understood and dealt with in the architectural industry. In addition to the promised innovative potential, decision makers at DAC viewed the open-innovation paradigm as a good way to address the issue of intellectual property, because these decision-makers were sceptical towards the non-sharing culture existing in the industry (interview 5).

It was possible for the crowd to upload proposals as soon as a competition was launched (i.e., when the competition brief was uploaded) and they could do so until the second before the competition closed. Each competition lasted from five to eight weeks and only one competition was active at any given time. In almost all competitions, proposal uploads followed the same pattern: a few proposals were uploaded within the first week, then a constant but in numbers low stream of uploads followed until the last week, where most participants would upload, peaking on the final day of the competition. A crowd member who uploaded a proposal could continue to edit and incorporating new ideas and feedback for as long as the competition was

open – proposals were not regarded as submitted until the competition deadline. Consequently, at the time of the predefined deadline, the platform deactivated the upload button and all proposals uploaded before that point were automatically entered into the competition. The community manager then chose between 20 and 30 proposals to be presented to the jury when it met to make the final selection. The jury deliberated for approximately three hours before choosing a winner.

Ethnography

Methodologically, I study the platform as a single case study, as this approach is relevant for researching complex organisational settings that are not well explored and conceptualised (Flyvbjerg, 2006). I was present in the Danish Architecture Centre (DAC) in approximately two years, during which I carried out ethnographic-based research (Fayard & Van Maanen, 2015; Neyland, 2008). I was connected with the team operating the platform and sat in an open-office space together with the team responsible for both the daily operations and the long-term visions for the platform. This operating team consisted of four persons with whom I met on weekly basis. I also attended meetings with other organisational units at DAC, including the communication department and the strategic management. Furthermore, I took part in meetings with potential competition owners, and in sessions with the company that designed and produced the platform.

I conceptualise both my research in the open-office landscape and the digital realm of the platform as ethnography. In this regard, I am inspired by approaches adopted by Pink (2013a), Hine (2005) and Kozinets (2010) when presenting methods for digital ethnography. Kozinets suggests 'blended ethnography/netnography' (2010, p. 65), which encompasses both online and face-to-face interactions. Kozinets also underlines the distinction between doing research on online communities and research on communities online. While 'research on online communities' covers activities that only take place online and aims to understand them as strictly online phenomena, 'research on communities online' aims to 'examine some extant general social phenomena, whose social existence extends well beyond the Internet and online interactions'(Kozinets, 2010, p. 64). Even though this distinction is highly analytical, I see my research mostly as belonging to the latter category. The reasons will be elaborated below. The empirical material in this paper encompasses screen dumps, quotes from the platform and interviews with various actors.

The ethnographic work exposed how terms such as ‘competition brief’, ‘jury deliberations’, ‘assessment criteria’ and ‘architectural quality’ were “transferred” from the open-office landscape to the platform: The language of DAC and the building industry at large was gradually installed on the platform when the operating team used their professional terms in communicating with crowd members but also through the platform’s actual design. In terms of the latter, DAC several times contacted the platform-design company and asked it to change wordings and categories on the platform to reflect more ‘architectural language’. This made me wonder whether the crowdsourcing on the platform could be regarded as a novel type of architectural competition and from here I began to think of the process on platform in relation to different form of architectural competitions.

After several months of undertaking both traditional and digital ethnography, I had gained enough knowledge to construct questions to guide semi-structured interviews with key persons, primarily at DAC. I documented the collected data in observation notes, soundbites, formal meeting minutes, screen dumps and recorded interviews. Some of the latter have been transcribed. An overview of interviews and observation situations is found in appendix A. Furthermore, I had access to memorandums and other internal documents produced in the setup phase as well as evaluations and other documents related to platform.

For the digital part of the ethnography, I created an online profile and thus became part of the crowd. On my profile, I wrote that I was a researcher. In the first two weeks, I remained in the background and did not actively interact. After this initial phase of the digital research, I began to take more active part on the platform, commenting and rating on uploaded proposals to learn how it worked and what the consequences could be. This was a purposeful decision, as I first wanted to understand the platform without influencing it too much, after which I more actively sought to become part of the crowd and to gain experiences in terms of interacting with other crowd members and uploading material through the platform. Aside from standard participation on the platform, I also approached other crowd members by writing questions on their profile pages. In this way, I undertook in-situ interviews with both competition winners, highly active crowd members, members who never won anything and members who were more-or-less inactive.

Affordances

To structure the analysis, inspiration is found in affordance theory as put forth by Gibson (1986), and advanced and developed by Norman (1999), Hutchby (2001) and others. The use

of affordances to examine digital devices is a tradition that has evolved along with the proliferation of digital technologies (see for instance Gaver, 1991; Kaptelinin & Nardi, 2012; Mcgrenere & Ho, 2000). In recent decades, also organisational scholars have taken an interest in applying affordances to address the interplay between technology and organisation (Fayard & Weeks, 2007; Zammuto, Griffith, Majchrzak, Dougherty, & Faraj, 2007). Building on American pragmatism and especially James' (1976) empiricism, Gibson (1986) opposes dualistic thinking. He claims that humans' relationships with objects and the environment are immediate and real. To exemplify, Gibson writes:

> I prefer to say that the real postbox (the only one) affords letter-mailing to a letter-writing human in a community with a postal system.
>
> (Gibson, 1979, p.139, here from Rappert, 2003, p. 579)

Gibson argues that the event of posting a letter requires both a postbox that is designed adequately – it have must an opening that is neither too small (so that letters will not fit) nor too big (so that the letters it holds will be exposed to bad weather) – and a human who writes letters and wants to post them in the belief that a letter dropped into a postbox will be handled carefully and delivered to the intended recipient. Here we see the implications of Gibson's point about 'a community with a postal system', which refers to the environment in which the event takes place and is made possible. Therefore, for Gibson, affordance theory has three important elements – the object, the actor and the environment:

> An affordance is neither an objective property nor a subjective property; or it is both if you like. An affordance cuts across the dichotomy of subjective-objective and helps understand its inadequacy. It is equally a fact of the environment and a fact of behaviour.
>
> (Gibson, 1986, p. 129)

This quote stresses Gibson's pragmatic view. However, if we focus on the latter part of the quote, we find an important trait: that affordances are both functional and relational. It is a potentiality in the object/actor relation in a specific environment. As outlined above, the concept of affordances is partly an epistemological statement. However, it is also an analytical strategy that emphasises the object of analysis as the ambition neither is to describe inherent qualities of objects nor to examine intentionality or psychological inducements. Rather, it is to search for interactions and effects between object and actor. Notably in my project, I am not observing 'actual' practices as such Examining action on digital platform entails a

displacement as it most often is traces of action that is observed (Koed Madsen, 2012). On the platform, these traces sediment in posts, comments, likes, ratings and so forth.

As mentioned, the overall ambition with using affordances as analytical resource is to address objects' and practices' relatedness. However, this can be done in many ways. For instance, an important difference shows in how Zammuto and colleagues (2007) and Fayard and Weeks (2007) use the notion. In the first case, five 'affordances for organizing' (2007, p. 752) are carved out to discuss the interplay between organisation and IT. The paper is conceptual, as the affordances are suggested with use of anecdotal arguments and academic articles. Fayard and Weeks (2007) demonstrate another usage, as they show how mundane objects (photocopiers and watercoolers) play a part in informal interactions. For the latter, calling upon affordance theory means examining concrete practices and effects of objects in a social world. In short, Zammuto and colleagues argues that affordances are situated 'in' IT systems, whereas Fayard and Weeks argue that affordances are 'results of interactions' between, for instance, water coolers and employees. My approach is aligned with the latter, as I search for effects of interactions between crowd members and platform design.

In practical terms, I undertake the analysis by first describing the platform design features. To the extent possible and relevant, I also explain why these features were included in the platform design. Then I elaborate how crowd members interacted with the platform design and finally I sum up the findings.

Affording openness – analysing how the platform works

Although the platform encompasses a vast number of affordances, four were established in relation to openness through the analysis: insignificant barriers to entry, easy participation, no head-to-head interaction and collaboration as appropriation.

Affordance 1: Insignificant barriers to entry

> The platform is open to players within and outside the building industry, allowing property developers and companies to invite tenders for development assignments, share ideas and provide inspiration for new innovation methods.
>
> Innosite, 2017

This quote suggests that the platform was designed to be open to everyone. It emphasises that a visitor should not refrain from joining the crowd due to preconceived ideas about not being professionally trained, or lacking experience within the field or domain. The outreach ambition

was underlined in the phrase stating that the platform was open to participants 'within and outside the building industry'. What mattered was that the potential crowd member identified as a player – as someone who would participate in the crowdsourcing 'game'. Figure 1 presents the registration page that new, potential registrants were shown when they clicked on 'Sign up now!'.

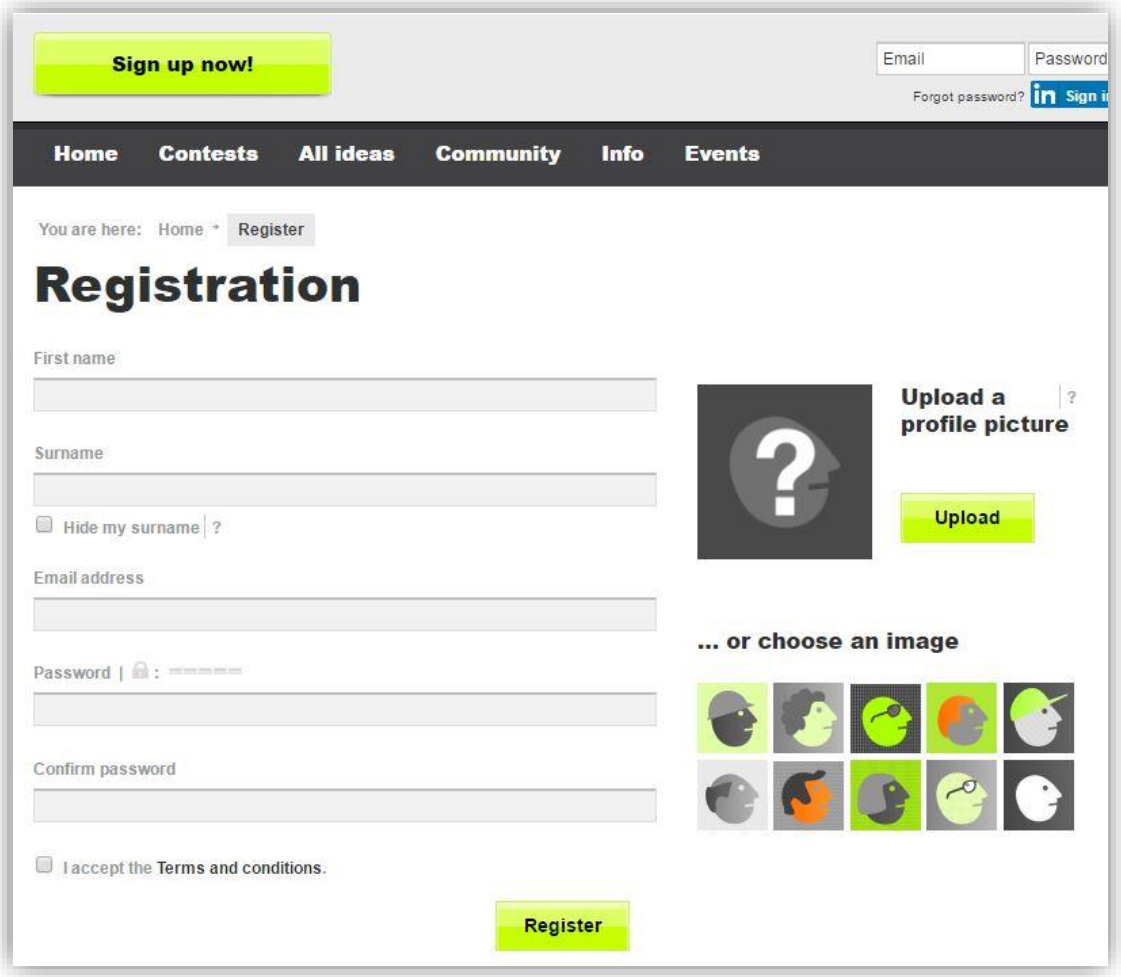

Figure 1. Registration (Innosite, 2017)

A name, email address and password were all it took to become a part of the crowd. There was no verification or approval of previous experience or qualifications. Completion of the form and a click on the 'Register' button let the visitor know that the only thing left to do was to activate the account, which was achieved by clicking a link sent to the email address provided. This activated the account, after which the visitor became a member of the crowd and could participate.

At one point, DAC wanted to create a more elaborate registration process in which potential crowd members would have to tell more about themselves in the registration process by creating an online resume, and uploading credentials, portfolio and a photo. The company that originally designed the platform strongly advised against this possible redesign of the site, as it believed that the change would result in a smaller crowd both in numbers and in scope as they argued that 'It has to be easy to join. There can be no ambiguity in the platform design that keeps potential crowd members from joining' (Interview 1). DAC abandoned this redesign and, over the four years of hosting competitions, the crowd grew to approximately 3,500 members, including a wide range of professionals and amateurs with an interest in the built environment. DAC found that the size of the crowd was a sign of success and that 'the design in this case worked as intended' (Interview 1, my translation). In-situ interviews with crowd members testified to this view, as the all interviewees agreed that the registration process was non-demanding (Interview 3).

Affordance 2: Easy participation

However, a relatively large and diverse crowd was not in itself a goal (Interview 5). To meet the promises of the platform, the crowd members also had to be active and participate in competition by uploading proposals. To do this, the crowd member had to log in. When a member logged in for the first time, a browser window appeared and asked whether the platform should remember the password and whether the crowd member wanted to be logged in at all times. Also, it was possible to connect the login with a Facebook or LinkedIn profile. When logged in, a click on the active competition on the front page took the crowd member to the subsite where the focal competition was explained. In a box on the right-hand side of the screen, there was a box with a button reading 'Upload your idea' (Figure 2).

Figure 2. Upload your idea I (Innosite, 2017)

If the user clicked on this button, another page opened on which the actual upload was done (Figure 3). A title and a description were mandatory (the upload button was not activated until at least one character had been entered in the text box). The title could not be more than 50 characters, while the description of the idea was restricted to a maximum of 2,000 characters. Furthermore, it was possible to attach documents (e.g., PDF, BMP, JPG) and to embed videos (e.g., from YouTube). When asked about the more technical side of the upload process, some crowd members complained about the platform's stability and some mentioned problems when trying to upload close to a deadline (Interview 3). More specifically, the platform sometimes 'froze' close to the deadline for uploading proposals, such that it failed to respond to any commands given by users. The company maintaining the servers stated that this problem could occur when 'there is a lot of peak traffic on the site' (Interview 1). On some occasions, the deadline was extended due to such technical issues, which in turn caused turmoil among some crowd members, who argued that they had not experienced any server issues and that they therefore found it unfair that other crowd members got more time to finish and upload their proposals (Interveiw 3). However, all instances of the platform being offline or otherwise not working were documented in the server log and therefore it was relatively easy to document these for operating team, even though it at times was difficult to communicate to the crowd. There were also some complaints about server issues that did not result in extended deadlines, which resulted in crowd members threatening with legal actions (Interviews 2).

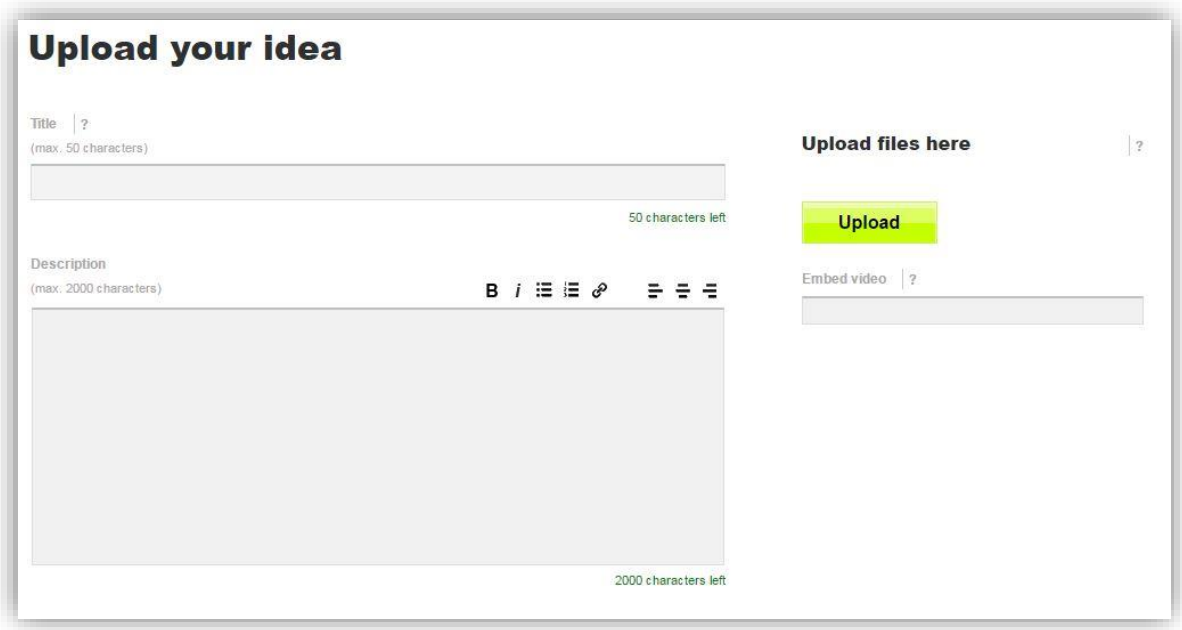

Figure 3. Upload your idea II (Innosite, 2017)

With the exception of these issues concerning uploads close to deadline, there were no other significant technical issues during the four years. Crowd members rarely contacted the community managers with technical problems. All such contacts concerned issues related to attempts to upload formats that the platform did not accept or to attach files that contained too much information (i.e., too many megabytes).

Notably, all but one of the competition winners uploaded pictures or PDFs containing pictures or drawings. Moreover, the share of proposals including pictures or PDF files increased significantly over the four years. In the first few of competitions, approximately 50% of the uploads contained attachments, while nearly every upload in the final competitions was accompanied by an attachment. According to a member of the operating team, this development was explained by a realisation among the crowd that the odds of winning increased when drawings and pictures were included in the proposal. While pictures or PDF files apparently increased the chances of winning, the same operating team member stated that she could 'not see a relationship between how many words a proposal contain[ed] and the chances of winning' (Observation 2, my translation).

As mentioned above, some crowd members experienced technical issues when trying to upload their proposals. However, when asked about the 'softer' sides of participation, there was widespread agreement that it was easy to participate. The questions in the competition briefs were formulated in an understandable, relatively simple manner and, in general, the community manager took time to clear out any misunderstandings about the initial question. On average, a competition had around 100 uploads which was deemed satisfying. Overall, the platform afforded relatively easy participation. Crowd members understood how to upload their proposals, and how to attach pictures and PDF files as they pleased. They understood formulation in the competition brief and how frame their answers accordingly. The recurring technical issues did not result in any significant behavioural changes in the crowd.

Affordances 1 and 2 combined meant that the platform was open, allowing newcomers to relatively easily engage with the platform and in this sense, openness and a wide reach, similar to that seen in the open architectural competitions, were achieved. In this regard, the community manager estimated that approximately 50% of the crowd was from Denmark, while the rest were scattered globally. This manager also noted that 'approximately half of the crowd [was] studying and the other half [was] working, primarily as architects, urban planners and

sociologists, but also as construction workers and engineers as well as consultants, managers and office workers' (Interview 2, my translation).

Affordance 3: No head-to-head interaction

Openness on the platform was not just a matter of the competition brief having a wide reach as seen in the open architectural competition. Inspired by open innovation as well as collaborative communitive, it also meant openness *among* crowd members. The operating team and the design company were keen to talk about co-creation (Interviews 1 and 2) as an important factor for the platform's potential for success. It was stated that if the platform was to 'really become a success, co-creation between random crowd members is needed' (Interview 5, my translation).

As mentioned above, the platform was designed so that whenever a proposal was uploaded, it became visible to the entire crowd. The motivation for this was two-fold. First, the design company had argued that collaboration among the crowd members would lead to more activity and, therefore, to better proposals (Interview 1). The idea was that crowd members' interactions with each other would serve a sort of pre-qualification of ideas. In addition, DAC had an incentive to promote collaboration. Its ambition was to test and challenge the tendency within the architectural world in general and the architectural competition in particular to ensure secrecy and to avoid idea sharing due to the fear of intellectual property theft. This non-sharing culture was by some decision-makers at DAC deemed to be an important reason for the industry's lack of innovativeness (Observation 3).

Figure 4 below presents a screen dump of the module automatically attached to all uploaded proposals. It illustrates how the platform design sought to promote collaboration among crowd members through three features: a button (top-left corner) allowing a crowd member to generally state that he or she liked this idea, an evaluation setup where other crowd members could evaluate the idea on the same criteria as stated in the competition brief, and another button in the bottom-right corner ('This idea inspired me!') that allowed a crowd member to formally state that he or she was inspired by the proposal. The 'I like this idea!' button was rarely used and the in-situ interviews with crowd members revealed confusion: Some crowd members voiced uncertainty about the signals they would send by clicking it (and to whom). Many directly stated that they did not want to promote other crowd members proposals and, thereby, run the risk of downplaying their own proposal (Interview 3). The 'inspired by' button was introduced to legitimise inspirational work. The idea was, that a crowd member clicking

that button would signal that he or she was building on and advancing that particular idea. This button was very rarely used. The in-situ interviews suggested that the complexity of intellectual property rights combined with the individual members' desire to win competitions trumped the possibility to co-create a proposal with other crowd members (Interviews 3 and 4). The evaluation setup, where crowd members could evaluate each other's by appointing one to five stars on the assessment criteria as defined in the competition brief was also rarely used. However, according to the community manager it was used more than both the 'I like this idea!' button and the 'This ideas inspired me!' button (Interview 2). The in-situ interviews revealed that evaluating ideas in this way, was less uncomfortable for other crowd members, as they felt they could give a nuanced evaluation (Interview 3). For instance, it was argued that 'if I rate 5 stars on *creativity*, I can still put 1 star on *realisable* to make a balanced evaluation'. However, most of the interviewed crowd members again stated, that they could see no reasons for evaluation other members' proposals and this resonates with the general observations of the platform, where it shows that the evaluation setup rarely is used.

Figure 4. This idea inspired me (Innosite, 2017)

In overall terms, almost no crowd members wanted to collaborate, interact or even acknowledge other crowd members work. At a point, the community manager bluntly stated

that there was ‘no community on the platform’ (Interview 2, my translation). In line with Gibson’s postbox, the object might have had certain qualities, but the actors in the environment did not accept the invitation. The affordance was therefore that no head-to-head collaboration took place.

Affordance 4: Appropriation

The last affordance also addresses the interaction between crowd members. However, while the former focuses on direct (lack of) collaboration, the focus here is on more indirect collaboration or rather how the crowd members were inspired by the accessible information.

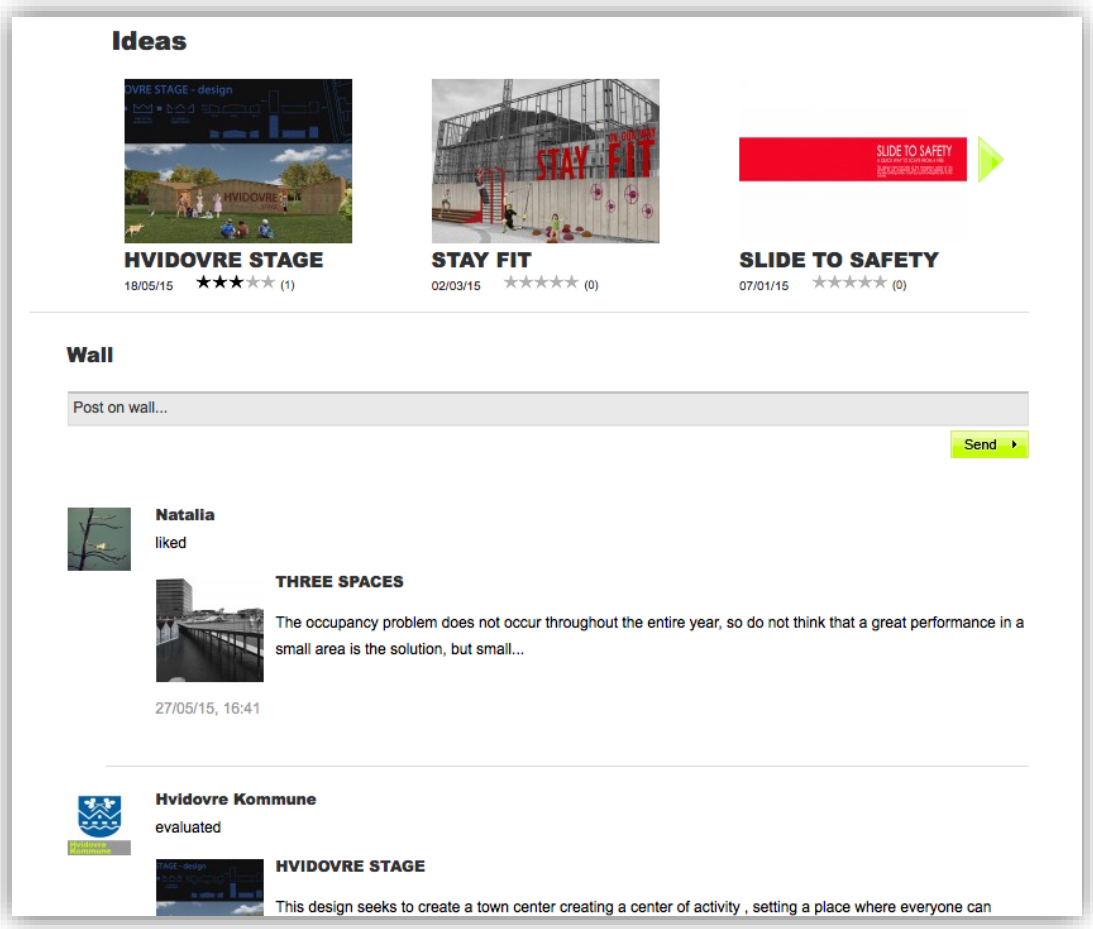

Figure 5. The wall (Innosite, 2017)

When a user registered and became part of the crowd, he or she was given an online space. With reference to Facebook this space was called a ‘wall’. On this wall, all activities concerning the user were gathered and logged. Figure 5 presents the wall of a particular user, ‘Natalia’, who uploaded three ideas (*Hvidovre Stage*, *Stay Fit* and *Slide to Safety*). She actually also liked

another crowd member's idea (*Three Spaces*). It also shows that the competition owner 'Hvidovre Kommune'[43] evaluated Natalia's uploaded proposal *Hvidovre Stage*.

The wall was personal in the sense that all activities involving a particular user were shown on this page. However, it was not private as every registered crowd member could visit all other members' walls, examine their activities and even contact them by sending online messages. The content of the wall was not limited to the ongoing competition. Rather, it was a persistent online space where all information and (traces of) activity was stored and visible, even if the given crowd member deleted his or her profile.

Other features on the platform shared this idea of complete transparency or full disclosure. As mentioned, the platform hosted 25 competitions and all information (e.g., uploaded ideas, comments, videos) from previous competitions was accessible at all times. Every crowd member could examine how a competition was progressing and how earlier interactions unfolded. There was also a dedicated search function. Former competition winners were highlighted on the front page of the platform, which prompted the crowd members to examine them in terms of the substance of their proposals and their activities on the platform and due to the persistency of the platform all uploaded information remained visible even if the member was not online or if he or she deleted her profile (Observation 1 and 2). In other words, openness here meant that all generated information should be accessible at all times, regardless of the member who initially generated it. This design choice refers back to the notion above about 'openness between competitions': by preserving already generated information and established knowledge in former competitions hosted on the platform, the hope was that less work and energy was wasted. This design choice made it legitimate to borrow from proposal from previous as well as current (as shown above from proposal in the active competition which could be acknowledge by clicking on the 'this idea inspired my' button) competitions.

As mentioned above, crowd members did not establish head-to-head collaboration on the platform and neither did they use the function to acknowledge other's work. However, my platform observations supported by insight from the design company (Interview 1) made it clear that crowd members do indeed seek inspiration from others. Several competition winners stated that they used the open platform design and the search functions to examine winning proposals in earlier competitions (Interview 3). Interestingly, a high-ranking director at DAC

[43] 'Hvidovre Kommune' translates to 'the municipality of Hvidovre'

at a strategy meeting disclosed that he believed that the innovativeness of the platform was declining, as he said that 'generally the latest competitions show less innovative vision' (Observation 3). Based on the daily and recurrent practices on the platform this intuition-based remark was reiterated by the team operating the platform. The community manager said she was witnessing how uploaded proposals was beginning to somehow look more alike, 'not being able to exactly pinpoint this feeling to particular proposals' (Interview 5, my translation). From the design company, it was possible to get basic descriptive statistics of the platform and the crowd members practices hereon. One such inquiry revealed that the search function on the platform more or less only was used to find former winners.

I term the last affordance *appropriation*, as it covers how the design of platform invites crowd members to be inspired by other crowd members work, and that these crowd members then pick up on this to incorporate earlier (successful) bits and pieces into the own proposal. As seen in affordance 3, the crowd members feel hesitant to make these inspirations formal as they try to assemble their own proposal, but affordance 4 indicate that they do look towards others work. All the crowd members I interviewed to some extend agreed that they had been looking at others proposal while composing their own and they did not feel that was cheating 'as it was made possible by the design' (Interview 3). One crowd member further elaborated that because of the upload pattern (where participants upload just before a competition ends) it is 'not possible to borrow from ideas in the same competition, because there will not be time to incorporate it into one's own proposal […] and this is fair, because then you do not borrow from entries in the same competition. Only those already finished' (Interview 3, my translation). Importantly, with 'appropriation' I make no refences to either innovative or aesthetic qualities of proposals, but rather it aims reflects how proposals are made. The comments regarding the lack of innovative vision is empirical in the sense that it made by professional working in the industry.

Discussion: a grammar of openness

Openness is an important principle for innovation in both open architectural and crowdsourcing competitions. However, in practice openness results in different things. Four affordances were carved out: 'insignificant barriers to entry', 'easy participation', 'no head-to-head interaction and 'appropriation'. The first two affordances show that the platform has a wide reach – it is easy to become a part of the crowd and it is easy to understand how to take part in the competitions. In other words, the platform is open in the same sense as openness is conceived

in the traditional open architectural competition. However, the third affordance shows that the aim of strengthening the innovative output through direct, personal collaborative interaction between crowd members is not achieved. The fourth affordance shows how the 'openness between competitions' results in the crowd beginning to appropriate earlier work.

The platform was designed to efficiently produce innovative proposals, but some of the platform's design features (e.g., the search function; the public and persistent wall) prompts standardisation of the uploaded proposals, because when making it possible for crowd members to examine earlier work, they are inclined to mostly imitate the wining proposals. This gives rise to discussion of scope of the output of the platform. Is it innovation or refinements? Innovation studies suggest several conceptualisations to address this, such as 'modular or architectural innovation' (Henderson & Clark, 1990) and 'radical or incremental innovation' (Dewar & Dutton, 1986). However, the interest here is not to classify or further understand 'the nature' of the output, but rather to link these outputs to the platform design and the organisational design (Kornberger, 2016).

The platform was designed to encompass both competitive and collaborative practices 'within' a competition format. This was inspired by both online collaborative communities (Füller, Jawecki, & Mühlbacher, 2007) as well as other platforms seeking to integrate competition and collaboration (Hutter et al., 2011). However, the Innosite platform is situated in the building industry where the 'architectural competition' stands as the prime example on how interactions between different actors play out. Therefore, it cannot be expected that this platform works in the same manner as crowdsourcing platforms in for instance IT, fashion or entertainment. This is framed by a part-time community manager (also was attending architectural school) who said that, 'there are some dynamics that are unique to the building industry – already at school we learn not to share more than necessary […] we are used to competing' (Interview 4).

To pick up these reflections and combine them with the insights gained from the analysis, I below (see table 2) suggest a grammar for understanding dimensions related to openness on a crowdsourcing platform. The primary reason for suggesting this grammar is to unpack 'openness' and establish dimensions that will allow for nuances and a more precise understanding of the role of openness. The grammar is aimed both at scholars and practitioners and consists of five dimensions. For scholars, the suggested dimensions provide a framework to analyse crowdsourcing platforms. Some of the dimensions can be described in a descriptive manner by a cursory examination, other dimension demands deeper knowledge of how

practices (or traces of practices) unfold when the platform is working, for instance through an affordance analysis. Importantly, none of the dimensions can be used to analyse a platform a priori without practical knowledge of the platform in question. For practitioners, it serves as a reflection guide on relevant themes concerning both designing and/or operating a crowdsourcing platform. The grammar is developed to understand designated crowdsourcing platforms somehow hosting competitions.

The first dimension is 'access' and directs the attention to how participants can access the platform. The extremes are open and invited respectively, where completely open in practice means on 'click to join' where the invited setup requires an invitation for instance a link or a password. Middle ground can be a setup where name, affiliation and diplomas must be provided, uploaded and approved to get access.

The second dimension is 'composition' and this puts focus on the demography of the platform members. The dimension is spanned by 'diverse' and 'uniform' and address the outreach: openness in crowdsourcing and architectural competitions is (also) about to whom the competition brief is communicated or to whom the platform is open. Therefore, focusing on crowd composition is a way of clarifying this outreach. Empirically, it could be to account for educational background or nationality.

Dimensions	*Extremes*	
Access	Open	Invited
Crowd composition	Diverse	Uniform
Permanence	Single	Multi
Level of information	Full access	Limited access
Interactions among crowd members	Collaborative	Competitive

Table 2. Grammar for understanding platform in relation to openness

The third dimension is called 'permanence and it is relative simple to analyse. The question is whether the platform is designed to host only one competition or if it is designed to host several competitions i.e. posing different challenges to the same crowd. If the answer is 'multi' new questions might arise such as 'are competitions active simultaneously?' or 'are the winners chosen by the same jury?' This is relevant when aiming to understand how openness 'between competitions' play out. In this sense, it is closely related but not similar to the fourth dimension.

‘Level of information’ directs the attention to how much information the members on the platform have access to. On digital platforms actions are necessarily stored (sometimes only briefly) to become visible and in that sense platforms potentially generate vast amounts of information. On Innosite, crowd members have access to all information generated as the only information or traces of action to be deleted is that which is deemed inappropriate or conflictual by the community manager. As mentioned, all space including the personal wall, were public.

The last dimension questions the ‘interaction among crowd members’. It is not a matter of finding out whether the practices are either based on competition or collaboration, as I have already mentioned as I am interested in crowdsourcing platforms designed to host competition. Rather it is to examine *if* and if so *how* the particular platform affords collaborative practices ‘within’ this competition. For instance, as I showed above, collaboration did not unfold in a head-to-head manner, but rather as appropriation. It can be discussed, to which extent appropriation in this sense is more collaborative or competitive.

The grammar is established in the intersections among open innovation, crowdsourcing and architectural competitions and the dimensions are inspired by the affordance analysis of the practice unfolded on a digital platform. However, as it stands it might also be useful for other competition setups in the especially the architectural world. Evidently, some re-interpretations would be needed: Can crowd members for instance be compared to architectural firms? What does it mean to host multiple competitions on a non-digital platform? And following this, what does it mean to have ‘full access’ to information? Questions like these can inform future research on novel architectural competitions.

Conclusion

In this article, I took interest in understanding what happens when a crowdsourcing platform hosts competitions that in some ways resemble architectural competitions. I drew on Gibson to establish four affordances of the crowd and digital platform. The two first affordances (‘insignificant barrier to entry’ and ‘easy participation’) let me to conclude that the platform was open in the sense, it had a wide reach and the people who signed up, understood how to participate in the competitions. However, the third affordance (‘no head-to-head interaction) underlined that the crowd had no interested in collaboration or otherwise engage with the platform design, aimed at making the crowd members interact and work together. Following this, the fourth affordance (appropriation) showed how crowd members instead used the

platform design to strengthen their own ideas, by borrowing and being inspired by earlier uploaded proposals.

In the discussion, I suggested a grammar of openness to understand and arrange how different types of openness from innovation paradigms and the architectural world play out when they 'meet' on a crowdsourcing platform. In this grammar, I suggested five dimensions ('access', 'crowd composition', 'permanence', 'level of information' and 'Interaction between crowd members'). The grammar is both usable for practitioners that operate crowdsourcing platforms as it offers terminology and questions for reflection about things that could be done differently (for instance, is the crowd composure too uniform, should there be less information available or should the design (try to) afford more collaboration), but also for scholars of crowdsourcing and architectural competitions. To the former because it suggests a terminology that allows for analysing and categorising platforms pragmatically by getting 'close to the design' and to the latter because understanding series of architectural competitions bound to a (non-digital) 'platform' could prove fruitful for understanding novel competitions setup, hereunder the mentioned 'framework agreements' or other long-term collaboration in the industry. To both, because it offers a way of specifying what openness in competitions means.

Empirical material

Innosite 2017: www.innosite.dk

Appendix A

Type	*Description*
Interview 1	Managing Director, HYVE HYVE designed the platform (March 2014, Munich)
Interview 2	Community Manager, Innosite, DAC Hired to 'groom' the online community (February 2014, Copenhagen)
Interview 3	Several interviews with crowd members In-situ, contacted and conducted online (throughout 2014, Online)
Interview 4	Part-time Community Manager, Innosite, DAC Student assisting full-time community manager (May 2014, Copenhagen)
Interview 5	Project Manager, Innosite, DAC In charge of Innosite's economic aspects (August 2014, Copenhagen)
Observation 1	General open-office landscape and online activities, DAC (Throughout 2013 and 2014)
Observation 2	Focus on community managers and their work (Throughout 2014)
Observation 3	Several internal meetings with high-ranking officers, DAC (Throughout 2014 and early 2015)
Innosite, 2017	Screen dumps and quotes, www.innosite.dk (Accessed throughout 2014, 2015 and 2016; still online as of June 2017)

[A collected list of references is found in the conclusion of the dissertation]

PART II

CHAPTER 5 ARTICLE 1

CHAPTER 6 Article 2

Moments of valuation in crowdsourcing

A version of this article has been submitted to 'Valuation Studies'

CHAPTER 7 ARTICLE 3

CHAPTER 8 CONCLUSSIONS

Frame: How winners are made?

The second paper was not only motivated by consulting my notes: even just browsing the Innosite platform made me consider how I could say something about the winners of the competitions as these, in a sense, was the concrete output of the platform. I did not feel comfortable to comment on and make (inherent) quality of particular proposals an object in my analysis, neither did I want to make it a 'too empirical examination' that would only say something about a particular competition. We could say, that I was searching for an approach that would allow me to say something broad about how the platform works without calling on analytical resources that would contradict or be in opposition to my general pragmatic inspirations. I began to not only focus on the winners, but rather on the entire process from upload to the choosing of winner(s). I framed this as an ambition to unfold how the platform (in the broad sense) made distinctions. Valuation studies suggested a vocabulary to do this.

Moments of valuation in crowdsourcing

- **Abstract**
- **Introduction**
- **Empirical setup: when the architectural competition meets crowdsourcing**
- **Approach: A pragmatic view of valuations**
- **Methods**
- **Into Innosite**
- **Analysis: two moments of valuation**
    - *First moment of valuation: the jury members' work*
    - *Second moment of valuation: community management*
- **Discussion**
- **Conclusion**

Table 6.1: table of content

Moments of valuation in crowdsourcing

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Abstract

Crowdsourcing has become a popular, widely discussed and applied phenomenon in recent years. For instance, by firms to advance research and development programmes, and by NGOs to address pressing societal issues. This article examines how winners are found in crowdsourcing competitions. To narrow the inquiry, a typology of crowdsourcing is suggested, after which the article focuses on 'crowdsourcing for the best idea'. The vantage point is a crowdsourcing platform situated in the building industry, which makes a comparison with the architectural competition relevant. The article takes a pragmatic approach, as it calls on valuation studies, especially 'moments of valuation', as an analytical resource. The analysis describes and unfolds two such moments – 'jury members' work' and 'community management' – and shows how they exist in the same 'time-space' and therefore influence each other. The article concludes that especially the community manager plays a surprisingly decisive role in how the platform seen as whole makes winners. The article builds on nearly two years of traditional and digital ethnographic exploration. The ethnography is supported by two 'longitudinal interviews', observations of jury deliberations and more than 200 hours of platform browsing.

Keywords: crowdsourcing; moment of valuation; pragmatism, architectural competition; ethnography; community manager

Introduction

In 2006, journalist Jeff Howe coined the term 'crowdsourcing' when referring to a novel way of outsourcing tasks to a digitally organised group of actors (a crowd). In his widely quoted blog post, Howe (2006) carved out four ideal types of crowdsourcing and used empirical examples to illustrate how these different types work. Since then, many platforms have emerged and different practices have evolved, and academia has taken an interest in these developments. As crowdsourcing is still a relatively new phenomenon, its meaning is still contested. In a recent review, Estellés-Arolas and González-Ladrón-de-Guevara propose some basic principles of crowdsourcing. Based on their insights, I accept their notion that crowdsourcing is an internet-based, open call directed at a group of individuals who can choose to participate by answering the call (2012, p. 11 paraphrased). Notably, participation is voluntary, and no traditional terms of financial or contractual employment apply. Different crowdsourcing platforms are structured in different ways, but arguably most such platforms are organised as competitions that operate to find a wining contribution.

A sense of fairness and transparency are necessary to legitimise a competition setup (Pasquale, 2010). Crowdsourcing promises that uploaded contributions will be assessed behind a digital veil of ignorance (Rawls, 1971), where contributions will be evaluated based on their qualities and their ability to respond to the call created by the 'sourcer'. In this sense crowdsourcing can be viewed as a step towards the 'pure competition' suggested by Simmel (1903), as a 'struggle for the favour of third parties' (Werron, 2015, p. 186) and compliant with the economic ideas of insignificant barriers to entry and small to non-existent transaction costs (Coase, 2013). Crowdsourcing is often depicted as a key method for harvesting knowledge from an organisation's surroundings and seen as a tool in the open-innovation toolbox (Chesbrough, 2003). The underlying assumption is that crowdsourcing functions by creating a direct line of communication between the organisation's needs and the surrounding's offerings, and the selling point is that the best idea will win. As a starting point, this article takes an interest in how an idea is deemed 'the best'. This resonates with Kornberger's call for research on how 'evaluative infrastructures commensurate, categorize and hierarchize the contributions of network actors, establishing new orders of worth' (Kornberger, 2016, p. 14)

Inspired by the burgeoning examples of crowdsourcing (from companies such as Lego, Innocentive, IDEO, Proctor & Gamble, Threadless, Cisco) and the growing amount of popular literature on the matter (Brabham, 2008; Howe, 2009; Leadbeater, 2008; Lightning Guides,

2015), the Danish Architecture Centre (DAC) launched a digital crowdsourcing platform in 2011. A 'lack of intelligent systematic coordination' had been identified in the industry, which gave rise to an ambition to 'establish simple, transparent and generative mechanisms of coordination' (Thomassen & Vind, 2009, p. 32, my translation). Through crowdsourcing, DAC aimed to broadly involve both insiders and outsiders in the idea-generation phase and to test what would happen if crowdsourcing methods were added to traditional ways of interacting. In the building industry, a common way for different actors to interact is structured and enacted through the architectural competition.

The architectural competition has a long tradition (Dirckinck-Holmfeld, 2016; Lipstadt, 2003; Rönn, 2009) and the Danish Architectural Association (DAA) lists 14 different setups on its homepage (DAA, 2017). In practice, even more types of competitions are possible, as the competitions can be assembled in various ways to create new possibilities (Kreiner & Jacobsen, 2013). The Danish building industry has a history of working with diverse concepts of competition, which is believed to be one of the main reasons for the contemporary success of Danish drawing studios (Dirckinck-Holmfeld, 2016). From a distance, crowdsourcing competitions seem to be well suited for the building industry, as they resemble architectural competitions in many ways. For example, a crowdsourcing competition involves an open call, a centralized task-giver and a decentralized but organised crowd of participants. However, even though a vast amount of research has shown how architectural competitions work (i.e. Jacobsen & Kamstrup, 2017; Kazemian & Rönn, 2009; Kreiner, 2012; Silberberger, 2009), it cannot be assumed that such finding also will work to describe how crowdsourcing competitions in the building industry operate. It has been shown, how crowdsourcing can improve the efficiency and effectiveness of the search process (Afuah & Tucci, 2012). Research also indicates that individual crowd member's behaviour is linked to successful output (Bayus, 2013; Hutter et al., 2011). Nevertheless, research on crowdsourcing has mostly taken place within innovation studies or in the field of IT management, where the focus has been on establishing the concept (Brabham, 2008; Howe, 2006; Schenk & Guittard, 2011), and on determining whether and how crowdsourcing can help companies in the innovation process (Afuah & Tucci, 2012; Bayus, 2013; Bojin, Shaw, & Toner, 2011; Parvanta, Roth, & Keller, 2013). Much academic effort has been invested in examining what crowdsourcing is, what it creates and how it can be optimised, but less effort has been spent on empirically examining how crowdsourcing works in terms of following the process from upload of contributions to selection of a winner, i.e. how it evaluates proposals, makes distinctions ultimately produce winners.

Therefore, in this article, I examine how crowdsourcing competitions unfold in practice. To do so, I ask the following question: What happens from the point at which a competition is introduced to the point at which a winner is found and presented? To answer this question, I mobilize research on architectural competitions as well valuation studies, and frame the platform as a device that organises and ties together two, qualitatively different moments of valuation. The analysis builds on nearly two years of ethnographic research, which I carried out during observations in open-office spaces and of jury deliberations, and in the digital space constituted by the platform. My research also included formal interviews and informal conversations with key actors.

The article is structured as follows. The following section discusses the concept of crowdsourcing in order to clarify that it is linked to multiple practices and that this article focuses only on one section of the wide set of practices covered by the 'crowdsourcing' label. Thereafter, I sketch my pragmatic approach, and describe how I employ valuation studies and 'moments of valuation' as an analytical resource. I then present the case, and establish and analyse two moments of valuation – 'jury members' work' and 'community management' and continue to show how they exists in the same in 'time-spaces'. In the discussion section, I suggest to understand the community manager as a curator.

Empirical setup: when the architectural competition meets crowdsourcing

Over the past decade, crowdsourcing has been called upon to solve a wide range of problems, including natural-science problems (Innocentive, 2017) and the mapping of birds' migration (eBird, 2017). Large-scale challenges, such as cataloguing craters on the moon (CosmoQuest, 2017), solving clear-water crises (xPrize, 2017), and translating and digitalising classic books (reCAPTCHA, 2017), have also been addressed. Moreover, crowdsourcing has been used as research and development strategy (Cisco, 2017), to develop novel t-shirt designs (Threadless, 2017), to engage fans in product development (Lego, 2017), and as a tool for developing new algorithms (Netflix, 2017) or new party politics (Alternativet, 2017). 'Crowdsourcing', therefore, is an umbrella term under which a wide range of practices unfold.

Some have questioned whether crowdsourcing should be viewed as a new phenomenon or as an activity that has been going on for centuries (Wexler, 2011). A prime example in favour of the latter argument is the creation of the Oxford-English Dictionary by more than 800 volunteers, which was orchestrated by an Oxford professor in eighteenth-century England (Ellis, 2014). He outsourced the task to a crowd of newspaper readers, who helped him to

complete it. Similarly, one might argue that the 'open call' architectural competition, which has been practiced since at least the fourteenth century (Lipstadt, 2003), can be seen as an early example of crowdsourcing, as this practice entails outsourcing a well-defined problem to a somewhat undefined crowd, which in turn is promised a prize.

However, I argue that crowdsourcing is best understood as a specific phenomenon if constraints are imposed. Most importantly, this article follows Howe (2006) and Brabham (2010) in arguing that crowdsourcing cannot take place without the internet in general and the 'web 2.0' technologies in particular (O'reilly, 2007). Participatory-design technologies that enable certain technology-driven communications between task givers and task takers are viewed not only as supportive of crowdsourcing but as a necessary condition for it. In other words, the crowd must be digitally organised and have a certain way of communicating with the task giver. As such, my definition of crowdsourcing requires a centralized task giver, decentralized task takers and a digital organising of them both. This digital organising must somehow contain a rewards structure to account for the work done by the decentralized task takers.

As an empirical phenomenon, crowdsourcing takes place on a particular platform designed in a particular way and operating in a particular setting. In addition, even though 'the crowd' implies a general, unified unit, it is composed of individuals with individual traits. Furthermore, platforms are designed and organised in different ways – they have different objectives, different design features and different reward structures. For instance, sometimes crowd members are encouraged to collaborate (Hutter et al., 2011). Other times, winners are not awarded monetary prizes but, instead, enjoy the honour of winning and potentially seeing their winning ideas realised or otherwise having impact (Lakhani, Fayard, Levina, & Pokrywa, 2012). Howe (2006) presents four archetypes of collaboration between task giver and task taker, which he frames as particular ways of working: the professional, the packager, the tinkerer and the masses. In contrast, Brabham suggest a typology that orders crowdsourcing according to the problem it aims to solve (Brabham, 2013, p. 45). Also 'crowdsourcing for innovation' (Fayard et al., 2016; Majchrzak & Malhotra, 2013) as a distinction to underline that some crowdsourcing platforms focus on innovation has been suggested. This implies that other crowdsourcing platforms focus on other goals. Inspired by these typologies, I suggest a pragmatic typology in which the categories are established according to how the platforms reward the crowd (see Table 1).

Reward *structure*	Exemplary platform
No reward	ReCaptcha
Every contribution is rewards	Mechanical Turk
Competitive; rewards the correct contribution(s)	Innocentive
Competitive; rewards the best contribution(s)	Lego Ideas

Table 1: typology of crowdsourcing based on rewards structure

Some crowdsourcing platforms work without any immediate and tangible rewards, such as the anti-spam and translation initiative 'reCaptcha'. reCaptcha is a pop-up window that prompts one to type a short text found on a scanned image, thereby confirming that 'the user is human and at the same times helps to digitize classic books' (reCaptcha, 2017). Crowdsourcing platforms that provide rewards for every contribution are also known as 'micro tasking' platforms (Kittur et al., 2013). Platforms such as Amazon Mechanical Turk (Kittur et al., 2008) or Crowdflower (de Winter, Kyriakidis, Dodou, & Happee, 2015) are typical examples. The third type of crowdsourcing requires facts or 'correct contributions' as inputs. This category is organised as a competition, but the reward structure is relatively straightforward, as it typically honours the first crowd member to upload the correct (i.e., empirically grounded or theoretically proven) solution. Well-known examples include Innocentive (Innocentive, 2017) and the Netflix Prize (NetflixPrize, 2017), which are platforms that link companies in search of solutions within the natural sciences to experts and skilled amateurs from such fields as physics, chemistry, math and biology. The last type of crowdsourcing requires the crowd to come up with the *best* idea. In other words, there is no *right* solution. Instead, a set of ideas is in play from which the best must be chosen. In order to establish a winner in this type of crowdsourcing, judgements must be made. This distinction is inspired by Simon (1996), who argues that the 'science of nature and the science of the artificial follow two different logics of inquiry' (Simon 1996, cited in Yoo, 2012, p. 135). In terms of the difference between the two competitive types, we could say that when crowdsourcing is used to 'discover the right', the judgement is already present as a relationship between the uploaded idea and the initial question. When crowdsourcing is used to 'suggest the best', a third party outside the idea-question relationship is needed to pass judgement. As discussed below, the platform examined in this article is designed with a third-party (triadic) evaluative structure. Therefore, it is necessary to understand how various actors make their judgements and how the platform design plays a co-constitutive role in those judgments.

Competitions aim to establish winners. Some competitions rely on formal, written rules and winning criteria (e.g., chess, computer games, sports betting). Others have elaborate written rules and criteria, but rely on a third party (typically a judge or a referee) to interpret these rules and make decisions while the competition unfolds (e.g., most sports competitions). In a third set of competitions, the rules and winning criteria are so loosely defined that a third party is necessary to interpret them throughout the competition and to find a winner (e.g., pre-selection for art exhibitions, talent shows and architectural competitions). To capture the specificity of the architectural competition, Stark (2009) argues that winners in head-to-head competitions are found by measuring and counting, and that the rules are governed by a referee or a complete set of rules. In contrast, architectural competitions are triadic in the sense that a jury evaluates the proposals according to several judgement criteria, after which they select a winner. Stark (2011) also argues that architectural competitions can be seen as an example of Dewey's (1939) pragmatic understanding of value, as architectural competitions are situations in which the principles of evaluation are found during valuation. In most traditional architectural competitions, the jury meets two or three times to discuss the design proposals before a winner is selected. The meanings of the announced assessment criteria are negotiated during these meetings (Kreiner, 2007b, 2009).

Approach: a pragmatic view of valuations

In line with Dewey's pragmatic understanding of value, I do not view the competition as a strutured interactions that merely unfolds in a discrete, sequential order and in which a certain input yields a certain output. I have found inspiration in Kreiner's notion that we 'should explore what the label architectural competition might possibly hide' (Kreiner, 2016, p. 38). In this regard, I also reject an understanding of the (architectural) competition as a phenomenon that can be understood as relying *either* on elaborations of the cultural norms under which it is formulated, the technology on which it depends, the output it generates *or* the human behavioural models on which it (implicitly or explicitly) relies.

Given my pragmatic approach, the crowdsourcing platform is conceptualised as a device that create answers by carrying out valuations. Traditional innovation studies and IT management often refer to 'devices', such as in 'platform' or 'mobile' devices. In this tradition, 'device' has a technical connotation, such that a device is a tool used to accomplish something else. This is different from the pragmatic tradition in organisational studies where use of 'the device' as an analytical approach implies that technology is a day-to-day phenomenon that evolves with (and

not separate from) other organisational practices. In relation to the case presented here, this means that software, hardware, work routines and design principles in isolation cannot explain how the platform works. Instead, these aspects are entangled and together help shape the platform. Therefore, they must also be examined together without granting a priori explanatory power to any one element. In my view, the device as an analytical resource offers a way to foreground the tangible when searching for outcomes and effects without reducing the explanation to those tangibles. This dynamic is pinpointed by Latour and Venn's (2002) framing of the hammer as both a means and an end. In a similar vein, I argue that framing something as a device is not about categorizing it as an object per se but rather about seeing it in action while foregrounding certain characteristics, and establishing a demarcation between what is part of the device and what is not. Focusing on device often entails a focus on material agency (Orlikowski, 2007; Pollock, 2012).

To explain the platform as a 'valuation' device, I refer to Dewey (1939) who, in his 'Theory of Valuation', holds that value should be understood not only as a noun but also as a verb:

> If there are things that are values or that have the property of value apart from connection with any activity, then the verb 'to value' is derivative. For in this case an act of apprehension is called valuation simply because of the object it grasps. If, however, the active sense, designated by a verb, is primary, then the noun 'Value' designates what common speech calls a valuable something that is the object of a certain kind of activity.
>
> Dewey, 1939, p. 4

Dewey calls attention to the activity that *establishes* value. Muniesa (2011) contributes to this view. He opens his influential contribution to valuation studies with the argument that 'value' should be replaced with 'valuation' (Muniesa, 2011, p. 24). In other words, what matters is not that something has value but rather *how* that something has come to have value. As such, the 'task of researchers is to investigate the work of valuation through its constitutive elements' (Kornberger, Justesen, Mouritsen, & Madsen, 2015, p. 10) or to examine the work that occurs before value emerges (Dussauge, Helgesson, & Lee, 2015, p. 20). There are different strategies for such examinations. Some suggest locating registers of valuations (Heuts & Mol, 2013). Others suggest value meters (Latour & Lépinay, 2009) or grammars of assessment (Hauge, 2016) as frameworks for capturing how different valuations take place and, thereby, establish value. I find most inspiration in the minimal grammar suggested by Hutter and Stark (2015), who argue that 'moments of valuations' always are spatially and temporally marked. Therefore, when examining valuations, we need to focus on their place as well as their beginnings and

ends. In this article, a moments 'spatiotemporal coordinates' (Ballard & Ramgolam, 2011) will be referred to as its 'time-space' and this notion will serve as reminder that moments of valuation unfold both in a given space and in a given time.

Methods

The pragmatic approach adopted in this article has implications for observations and interactions undertaken to develop knowledge. Latour discuss ways of following scientists in their 'natural habitat' (1987), while Akrich unfolds some attention points when examining devices:

> Machines and devices are obviously composite, heterogeneous, and physically localized [..] How can we describe the specific role they play […] We have to move constantly between the technical and the social […] The difficulty with vocabulary is the need to avoid terms that assume a distinction.
>
> Akrich, 1992, pp. 205-206

In practical terms, moving constantly between the social and technical without assuming a distinction is a methodological practice that demands reflection: for instance, it is important to avoid assigning primacy to certain sources of information. I spent approximately two years engaged in both traditional and digital ethnography. My ethnographic examinations (Neyland, 2008), which were carried out at DAC, included participation in a wide range of meetings, activities and events as well as merely being present in the office, observing everyday work, engaging in small talk, listening to incoming phone calls and so on. In addition, I joined informal gatherings, such as optional afternoon arrangements and more spontaneous get-togethers, all of which helped me build knowledge about how the platform worked and how people worked in relation to it. Many of the insights gained in this manner are documented in field notes and soundbites. Furthermore, a vast number of documents, including memos, interviews with stakeholders and official papers, served to build knowledge. Moreover, I observed several jury meetings. The analysis is based on the particular 'Sleep Tight' competition (SleepTight, 2014), and therefore the referred jury meeting observations is from this particular competition (observation 1).

My digital examination of the platform (Pink, 2013b; Rogers, 2013) involved more than 200 hours of browsing the site as well as accessing back-end data and data on user behaviour. I also interviewed representatives of the company that designed the platform. Furthermore, I participated in weekly meetings with the platform's community manager, and I set up an

account and created a profile on the platform. This allowed for a first-hand experience of how the platform worked and an understanding of the actions available to platform registrants. Again, when it comes to the analysis, the focus is narrowed to the Sleep Tight competition (SleepTight, 2014).

Over the course of my study, I interviewed either the project manager ('interview pm') or the community manager ('interview cm') approximately twice per month. Each interview session lasted between 30 minutes and 1 hour. I refer to these recurrent sessions as 'longitudinal interviews', as we revisited many of the same themes over time. The interviews were always informal but inspired by the analytical approach suggested by Kreiner and Mouritsen (2006). In this tradition, 'the interview begins with the premise that both researcher and respondent are knowledgeable about the situation they are discussing' (Kreiner & Mouritsen, 2006, p. 174). This was possible not only because I spent a significant amount of time at DAC gaining trust and knowledge about the platform and how it worked, but also because DAC's representatives believed that I had knowledge they could utilise to improve their daily work. The employees had come to see me as both researcher and resource. The series of interviews covered various themes, such as 'innovativeness of proposals versus competitiveness of the process' and 'jury composition and community management', as well as questions such as 'how does the crowd respond to platform design changes?' and 'how is a good challenge composed and formulated?', which I used as entry points in the interview-coding phase. With this, these 'longitudinal interviews' does not only refer to the Sleep Tight competition, but also to broader points of interest spanning both other competitions and more general themes related to the platform, crowdsourcing and the industry. All interviews were digitally recorded, three were transcribed.

Into Innosite

On its 'About' page, Innosite is described as an 'open innovation platform, which connects players with a need for innovation with people who have great ideas' (Innosite, 2017). The platform is still online, but it was only functional between 2011 and 2015. In that period, it hosted approximately 25 competitions. Each competition lasted between five and eight weeks, and they were always situated within or near the periphery of the building industry. Competitions could, for instance, focus on designing student accommodation or bus stops made in glass.

In the following, I use ‘roles’ to structure the presentation of the platform. My ethnographic explorations in DAC’s offices and on the digital platform helped me understand how roles these roles emerge both directly from platform design, and in the social and professional life within the office space. I found four relevant roles: two made necessary by the platform’s design, and two suggested in part by the platform design and, in part, by practical concerns as well as know-how of how crowdsourcing and traditional architectural competitions normally take. As mentioned above, crowdsourcing entails a dynamic between the centralized and the decentralized. Drawing on terminology introduced on the platform, the two roles determined by the platform’s design were ‘competition owner’ and ‘the crowd’. The platform was designed so that a competition could not begin without a competition owner uploading a competition brief containing the main challenge and the assessment criteria. Also, a competition would not receive any answers to this challenge without crowd members. The ‘operating team’ and the ‘jury’ were the two roles that were more loosely brought into play even though they were at least as important as the platform-determined roles. The operating team was composed of the DAC employees who maintained the platform. Their work routines and practices helped me realize that a clear division between what happened on the platform and off of it could not be sustained. As described above, a crowdsourcing competition needs to have a winner. From the beginning, the operating team knew that a separate function was needed to establish legitimacy and professionalism regarding choosing the winners (interview pm). This led to the establishment of the jury role.

In the competitions hosted on Innosite, competition owners included architectural firms, consulting companies, municipalities, advertising companies, construction companies, festivals and homeowners’ associations. The characteristics of the competitions varied. In some competitions, the challenge was very specific (e.g., coming up with blueprints for new housing that used a certain building material; Rockshell, 2012). Other challenges focused on solving societal issues, like creating public spaces (ShareTheView, 2014) or developing affordable student housing (SleepTight, 2014). Some competitions were characterized as idea generation, while others were competitions in which the winning proposal was expected to be realized. The competition owner was comparable to a client organisation or a developer in a traditional architectural competition, and it was the competition owner who was the formal sender of the competition brief, which described the competition and the setting. The brief also outlined the solution space and the assessment criteria. In architectural competitions, the assessment criteria cover how proposals will be evaluated by the jury.

‘The crowd’ is the common term used for the group of people who have registered and created a profile on a platform to solve the challenges that are posed on that platform. Even though ‘the crowd’ may appear to refer to a uniform collection of people, it is – before it is digitally organised – a collection of people with individual traits and skills. Furthermore, the crowd did not simply emerge when Innosite went online – it was established over time. When the platform went live in 2011, it had no members. Through online and offline campaigns, the Innosite crowd was continuously assembled over the five-year period. It had approximately 3,500 members by late 2015. The operating team estimated that the crowd members were approximately evenly split between students and graduates (i.e., fully trained), and that these professionals were primarily architects, sociologists, urban planners and urban developers. Craftsmen, construction workers, philosophers and unskilled labourers were also part of the crowd.

The operating team was comprised of a project manager, a community manager, a graphic designer and a student-worker, all of whom were employed by DAC. The most prominent of these were the project manager and the community manager. When a competition owner approached DAC with a challenge he wanted the crowd to solve, the community manager was tasked with helping to reformulate the challenge in terms that were ‘understandable and solvable by the crowd’ (interview cm). This was deemed necessary, because typically the competition owner would not be trained in communicating with a crowd. The community manager was also responsible for servicing and managing the crowd and the jury. Therefore, she both encouraged the crowd and provided answers to specific questions posed by crowd members. In the four years that Innosite was active, the community manager remained the same, which made her the most consistent member of the operating team.

The last role was held by the jury, which was comprised of representatives from the competition owner’s organisation and appointed experts. A jury was thus temporarily assembled for each competition and then dissolved immediately after it had appointed a winner. As in architectural competitions, the role of the jury was to evaluate and assess the proposals, and subsequently choose a winner. The composition of the jury was announced on the platform approximately halfway through a competition (typically after three to four weeks). Jury members were also encouraged to register and become part of the crowd.

The platform was designed so that all of these roles (i.e., competition owners, crowd members, operating team and jury members) had the same technical possibilities when logged in. For

instance, jury members and regular crowd members had access to the same information. On the platform, the only apparent distinction between regular crowd members and the other roles was evident in the profile pictures, where a small text was included for everyone but regular crowd members (see Image 1).

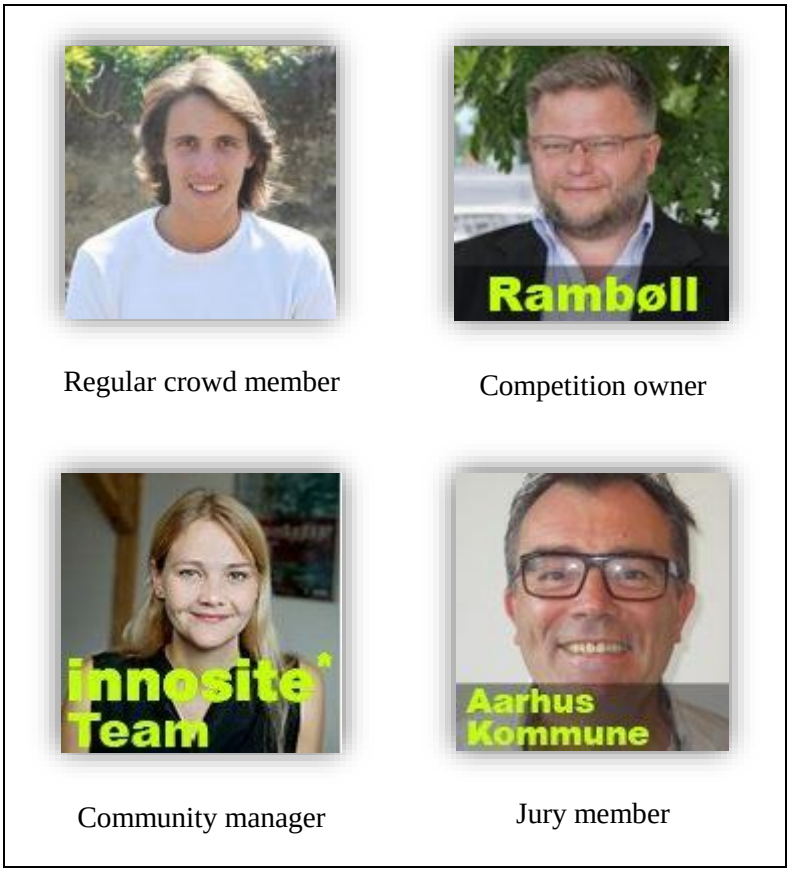

Image 1: Profile pictures of the exemplars of the four roles

The platform was designed to follow a certain trajectory. First, the operating team uploaded the competition brief as a PDF file after having formulated it together with the competition owner. This automatically began the competition and the crowd could then start uploading proposals. The platform included a rating system, which allowed all registered crowd members (i.e. both regular members, jury, operating team and competition owner) to rate the uploaded proposals. The duration of a competition was always clearly stated in the competition brief. When a competition ended, it was automatically no longer possible to upload proposals. Thereafter, the community manager shortlisted 20 to 30 proposals and presented them to the jury, who then picked the winner.

The platform was expected to be 'self-organising' in the sense that when the proposals were uploaded, crowd members should highlight the best proposals by using the rating system. Those proposals were then to be delivered to the jury, which chose the final winner. The first

phase of this dual-evaluation structure (the crowd's rating) was possible because the platform was open – all uploads were visible to all crowd members. This is different from traditional architectural competitions in which proposals are kept secret. In addition to establishing a pre-selection process, the aim of this design choice was to support co-creative processes, such as those seen in open-source communities where computer code and programs are co-developed (Raymond, 2001; Von Hippel, 2001). The idea was that this democratization of the process would improve the overall quality of the proposals (Surowiecki, 2005; von Hippel, 2005).

Analysis: two moments of valuation

As Dussauge, Helgesson and Lee (2015) argue the relevant move is to examine the work that happens before value emerges. With a pragmatic approach to the crowdsourcing competition, this leads to the jury meeting, as the jury members formally choose the winner. As mentioned the analysis primarily centres on the Sleep Tight competition which took place in late 2014.

First moment of valuation: the jury members' work

The jury only met once in an office at DAC, and this meeting lasted three hours and ended with the jury selecting a winner. The meeting was facilitated and led by the community manager, who designed the meeting format together with the project manager. Jury meetings always opens with the introduction of the particular competition followed by a brief presentation of the shortlisted proposals by the community manager. This is supported with printouts and images shown through a projector. The jury members are provided with the shortlisted proposals prior to the meeting and asked to read them all carefully. However, in practice, most members only close-read their favourites, which means that the rest of the proposals relies on the community manager's introduction. Returning to the particular meeting, the community manager asked every jury member whether he or she wished to add any proposals to the short list. Given that the jury members were encouraged to register on the platform and explore uploaded proposals while the competition was active, this step gave them a chance to bring proposals to the table, thereby adding to the combined pool of proposals. Four proposals were added at this stage, each of which was presented by the jury member who suggested them. This was followed by an unstructured roundtable discussion of the proposals and the assessment criteria. The community manager then asked the jury to undertake an initial vote by a show of hands. The aim was to remove approximately half of the shortlisted proposals. Although this voting round was uncontroversial, the fact that all proposals suggested by jury members made this first cut was notable. After this round of voting, the discussion became more specific, as

the pool of proposals had to be cut down to a single winner, two runners-up, and one or two honourable mentions.[44] These discussions were more intense and involved 'professional' arguments based on for instance 'aesthetic quality' or 'choice of materials' (observation 1). In this particular competition, the jury was comprised of two architects, a local politician, two client organisation representatives, an expert and an end-user. The most heated discussions often concerned the proposals suggested by the jury members (often about one-third of the remaining proposals).

To understand this process, we need to take a small step back in time to examine how jury members interacted with proposals on the platform while a competition was active. The platform was designed so that a commentary track was automatically attached to uploaded proposals. In Image 2, the jury member 'Stephen' has liked and commented on the 'boligboxen' proposal.

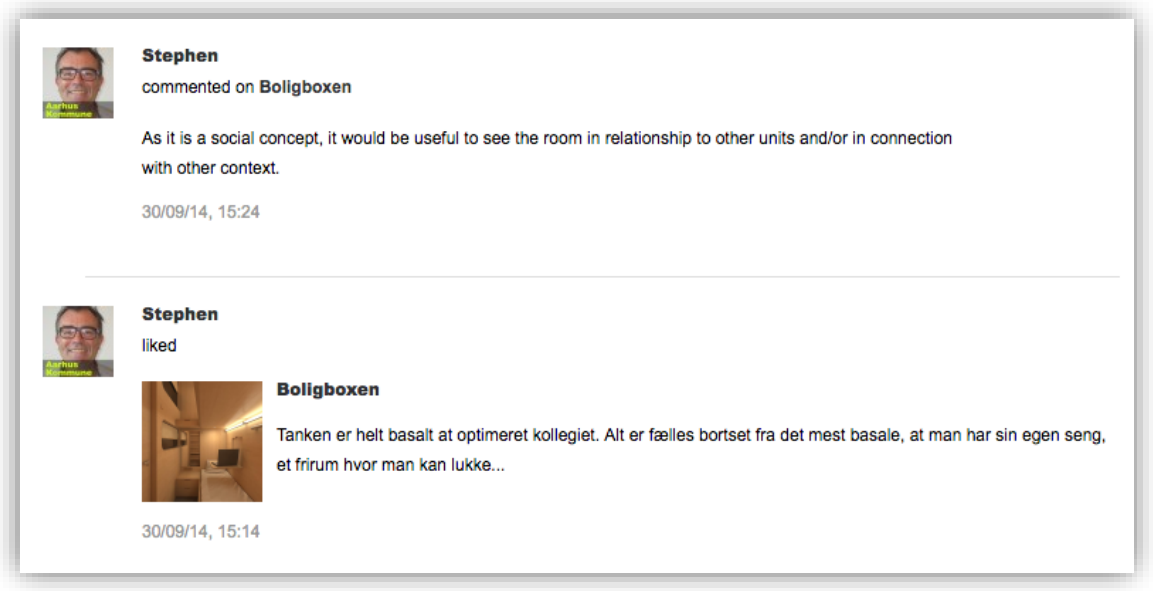

Image 2: A jury member's activities on the platform (see appendix A for translation)

From the profile picture, the inclusion of text makes it apparent that 'Stephen' not is regular crowd member. Jury members interacting with proposals in this way created asymmetrical knowledge, which challenged the fairness of the competition. In traditional architectural competitions, the only interactions between participants and jury members are the one-way communication of the competition brief and the announcement of the winner. In the Innosite case, a 'like' from a jury member suggested positive attention. Furthermore, concrete, text-

[44] The difference between runners-up and honorable mentions was that there were specific prizes for the runners-up, while the honorable mentions were merely mentioned on the platform.

based feedback created an opportunity to change proposals in accordance with the desires of jury members. A lack of 'likes' and comments also had effects. This was highlighted by the community manager, who stated that she had received emails and messages from crowd members asking about this asymmetry and why some proposals received attention from jury members. Therefore, these interactions serve to establish a connection between the proposal and the jury member, as the jury member invested time and resources in providing feedback. The community manager stated that she knew 'at least half of all the jury members created profiles on the platform' but also that she had 'no idea how active they were' (interview cm).

At this point in the jury meeting, the printed versions of the proposals were spread out on a table. All jury members were then asked to take three post-it notes and place them on the three ideas that they preferred. This spawned a great deal of discussion. Some members suggested that this was an unfair or overly simplified method, but the community manager stood firm (observation 1). The jury members who had added proposals to the shortlist argued for their importance, while the other jury members also found proposals they preferred. In this stage of the negotiation, the jury members' different goals and strategies were exposed. Some jury members focused on ensuring that their favourite proposal won. Others centred on delivering solid arguments based on their professional experience. The community manager, who was the meeting facilitator, had a pragmatic agenda of ensuring that a winner, runners-up and honourable mentions were found within the timeframe (interview cm). Sub-negotiations took place during which alliances were formed to secure votes. After some discussion – and within three hours – the jury made its choices.

Notably, the 'time-space' was not confined to the three-hour meeting in office room. Due to some of the jury members' activities on the platform, the moment of valuation reached back to when the competition was active on the platform and therefore the spacetime of this moment contains both the jury meeting room and the digital platform. By referring to the moment of valuation as 'the jury members' work', I emphasise that it was not just 'the jury' as a collective group that make valuation, but also the work of the individual jury member because of their interaction with particular proposals on the platform.

Focusing on the jury members' work it was evident, that the shortlist comprised by the community manager plays decisive role in establishing the landscape in which the jury members make their deliberation. Also, at each jury meeting several members would ask the

facilitator (the community manager) how this shortlist was comprised and which selection criteria were utilised. In the next section, I consider the work of the community manager.

Second moment of valuation: community management

After following the work of the community manager for more than a year, it became apparent that her role was changing to become much more decisive than it was in the early phases. Originally, the community manager's job was to ensure that the platform worked smoothly. She answered emails and questions posed on the platform. Furthermore, it was her role to engage with proposals she believed held potential that had not been fulfilled. In practice, this meant that she asked questions about what she saw as uncertainties in the proposals in the hope that the crowd member would continue to work on the proposal. As mentioned, all proposals were editable until the competition ended. Therefore, (part of) a proposal's success was its ability to react to feedback and integrate it in a reformulation.

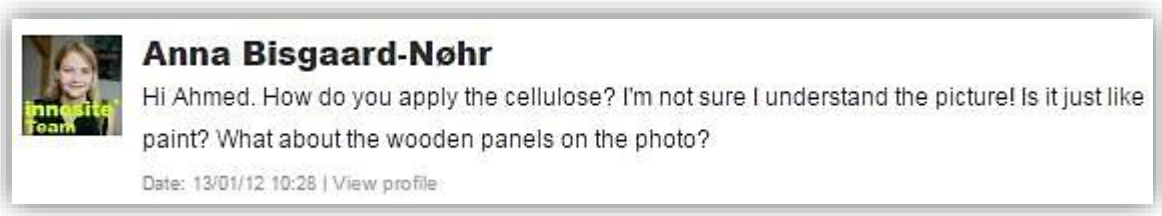

Image 3: Feedback from community manager

In Image 3, we see that the community manager read a proposal but was in doubt about how to understand an attached picture. She therefore asked the crowd member ('Ahmed') to elaborate on how the picture should be understood.

The community manager needed no specific professional qualifications. Instead, she was expected to follow her 'gut feeling and ask the questions she was naturally inclined to ask' (interview cm). Together, the community manager and the project manager had written a one-page manual to clarify how they should interact with crowd members. This manual contained one-liners such as 'always be positive and formulate your feedback as a question' and 'always be quick to answer questions aimed directly at you' (interview cm). The manual contained the only formal guiding principles. In general, the community's management was highly informal, as no formal training or education was required. This was evident, for instance, when the full-time community manager was absent (e.g., sick or on holiday) – the part-time student worker was asked to read the one-page manual and then follow her gut feeling.

As mentioned, the second part of the community manager's job was to shortlist proposals (typically between 20 and 30) and present them for them to the jury. As the platform was conceptualized as 'self-organising', this meant that she had to screen all of the uploaded proposals and then pick those with the best ratings to present to the jury. In this regard, it is necessary to unfold the platform's rating system. Whenever a crowd member uploaded a proposal, a rating module was automatically attached just below the proposal (see Image 4).

Image 4: Evaluation module

This module allowed all other crowd members to evaluate the proposal either by liking it (the 'I Like this idea!' button), by evaluating it in a more nuanced way by assigning it one to five stars on five different dimensions or by clicking the 'This idea inspired me!' button in the lower, right corner[45]. These dimensions were based on the assessment criteria and they were the same dimensions that the jury used in its discussions. The community manager stated that finding and presenting the best-rated uploads for the jury was a hassle because the platform-rating module was rarely used by the crowd members. She also stated that, at times, she felt

[45] The 'This idea inspired me!' button was not as such a usable evaluation indicator, because the number of clicks on this button did now accumulate or shown anywhere on the platform: rather it worked by autogenerating a comment to the uploader telling that someone has been 'inspired by your idea'. Therefore, it was not – as the 'like button' and 'star rating' setup – part of the evaluation.

‘embarrassed to include some of the best-rated proposals on the shortlist for the jury because they were simply not good enough’ (interview cm). She continued to indicate that some crowd members might have been playing the game by getting friends to register and rate proposals positively. She said that the platform rating system could ‘not function as a trust-worthy pre-qualification setup, because if a crowd member just got two friends to register online, and give 5 stars, the it would be enough to be selected to the jury meeting’ (interview cm). As a result of this, the community manager began to choose those proposals that she believed held the greatest potential regardless of their ratings[46]:

> I think I have a really good idea about what the jury is looking for. […] We tried to use pre-defined parameters but that did not work, so I use my experience from other competitions and my general knowledge. […] Furthermore, I do not necessarily pick the 20 best proposals. I always aim to have a certain diversity in the proposals in order to show the range of the generated ideas to the jury […] to give the jury room to think outside the box in its selection.
>
> Community manager, 2015

When elaborating on what this practice of not choosing the ‘best’ proposals meant, the community manager said that she did not simply pick the 20 most-promising proposals. Rather, she chose the 20 proposals that ‘supplemented each other to create a rich a promising landscape of proposals’ (interview cm). These two changes in her work are interesting. They constitute a step away from a traditional understanding of a fair competition because the transparency of the selection process is challenged and because the shortlists are not necessarily comprised of the 20 best or most promising proposals. Instead, the shortlist was established with a holistic view of the complete profile of proposals. The community manager revealed that approximately one third of the proposals she picked to present to the jury were proposals that she would not regard as qualified in themselves. She chose them because they ‘accentuated the qualities of the collective selection’ (interview cm).

From the term, it is hinted that ‘community management’ unfolds during the competition where the crowd (i.e. ‘the managed community) is active. However, in clarifying the time-space of this moment it is necessary to expand it into the jury meeting room, because the community manager facilitated deliberations, organised the objects such as hand-outs and use of projector as well as designed and managed the voting system. Furthermore, the community management

[46] This choice was approved by project manager and acknowledge as a solution to the ‘failure to self-organise’ (Interview pm)

also occupies the time-space between the active competition and jury meeting, where she established the shortlist.

Discussion

Above it was shown how two relevant moments of valuation work to find winners in crowdsourcing competitions. I use moments of valuation to emphasise that even though the final selection of a given winner can be narrowed down to when the jury board make their selection, many relevant decisions and deliberations had to occur before the final selection was possible.

The jury members' work as presented above resembles how juries in traditional architectural competitions but also differs in central ways. For instance, the dynamics and negotiations in the jury meeting room resemble the dynamics also so pointed at by, for instance, Rönn (2009). Also, the fact that jury members are in dialogue with crowd members resembles the dialogue-based architectural competition as examined by Kreiner and Jacobsen (2013) and Jacobsen and Kamstrup (2017). However, these two contributions examined formally organised dialogue between jury and competition participants which were clearly structured in respect to where and when they would unfold. On the platform, dialogue between jury and crowd members exists as a potential. The crowd members know that it is possible, but they cannot expect it and furthermore, they also cannot reach out to the jury members, but rather they have to wait and see if a jury member reaches out. Also, the dialogue is marked by chance: if a jury members chooses to comment on an uploaded proposal, there is no organised form or 'template' for the such dialogue. In the example with the jury member 'Stephen' above he asks the uploader to elaborate on particular theme and therefore gives feedback, that can be used to change the proposal in regard to he is searching for. However, at other times jury members' comments has been less inviting, making them difficult to act on.

To understand the work of community managers, Kornberger suggests diplomacy as 'fruitful metaphor for describing management in "the open" because […] diplomacy marks the sovereign's tacit acknowledgement that the world is polycentric' (2016, pp. 14–15). I agree that diplomacy as metaphor points towards some aspects of the work of the community manager as seen above, for instance, how the community manager works to make ends meet: her role is to make sure that the platform seen as a whole works smoothly and that every competition finds a winner. However, I will argue that work of the curator is a better way of understanding the role of the community manager. I have shown how the community manager

worked to develop a shortlist of uploaded proposals by establishing a diverse but collective landscape instead of simply advancing the proposals with the best ratings. In the art world, especially in the world of museums, a curator is a presenter, who ensures that artwork is properly located, hung (in the case of a painting) in the optimal position and given just the right amount of lighting. The curator works to install pieces in the right setting, thereby blurring the lines between object and context. The role of the curator is both analytically and practically separated from the role of the artist, but for the audience, the work of the artist and of the curator collapse when a piece is put on display. To further understand the role of the community manager, I draw attention to how she makes the selecting of proposals to present for the jury. Extant research shows that professional background (Svensson, 2013) and intuition (Kreiner, 2012) play important roles when the meaning of the assessment criteria are negotiated in jury. Remembering the one-page manual, it is unclear what the community manager's profession is and therefore also how her intuition works. However, it is not unclear that her intuition indeed works to guide how she 'manages in the open'. With this in mind, I propose understanding the community manager as someone, who in practical terms test potential and fosters creativity (Chan et al., 2016) but also in more metaphorical and suggestive terms installs proposals in their right place by putting them on display thereby opening for audience valuation.

Seen as a whole it is not surprising that jury members make the ultimate selection of a winner, as this is apparent from the platform design. However, the community manager plays a surprisingly decisive (albeit not final) role in advancing ideas. Some of this can be explained by her presence as facilitator of the jury meeting, but not all. Her role as curator that installs pieces for the jury to make final decision on, is by no means confined to the jury meeting, but chiefly unfolds in the daily community management.

Throughout the article, crowdsourcing competitions has been compared to traditional architectural competitions. As mentioned, much research on competitive dynamics and the work of juries is based knowledge the architectural competition. This prompts an important question of whether and how the platform practices can be compared to the architectural competition. The platform is situated in the building industry, but the architectural competition is not the only organised interaction in this industry. General management, innovation-search processes, organising building-sites activities, forming new alliances and coordinating cross-industry consortia to improve efficiency are only some of many types of organised interactions in the industry. The work of the crowdsourcing platform could also be understood within these

broader perspectives. However, both the roles established by architectural competitions and crowdsourcing, the purpose they serve as well as the reward structure they rely on are comparable: the formulation of an initial challenge in the competition brief; the communication of this challenge to decentralised actors (crowd or architects); the role of a jury to select a winner; the reward structure where competition winners are awarded a prize. The comparison above also raises questions about the examined crowdsourcing. Are the practices unfolding on the platform unique to the building industry, making the comparison to the architectural competition obvious but at the same time making comparisons to other crowdsourcing platforms difficult. To address this question, I return to the crowdsourcing typology established above. This was based on reward structure and I took interest in crowdsourcing unfolding as competition. This led to a distinction between 'crowdsourcing for the right idea' and 'crowdsourcing for the best idea'. This distinction stresses that crowdsourcing as examined here is part of larger phenomenon. However, these distinctions between 'the right idea' and 'the best idea' are not a 'natural' distinctions. Both Simon (1996) and Dewey (1938) propose that logics guide inquiries but they do not determine fields. In practical terms, crowdsourcing competitions that blur the line between the right and the best idea are conceivable. Think of a crowdsourcing competition that aims to find a solution to how to make a certain chemical compound. Perhaps a solution to this is of found with help from an optical laser. But then a solution drawing on magnetic tweezers and proposed. What seems as competition for the right idea, now needs a way to choose between to seemingly equal solutions. Maybe the optical tweezer solution is selected because it is the cheapest to put in production, or maybe the laser is chosen because it was uploaded first. In other words, many crowdsourcing competitions can be examined in regard to how its reward structure prompts selection of winners. And to the degree that professionals are involved in making decision, such research could benefit from knowledge on how architectural competitions play out and how jury members act herein. Future research could focus on this, by elaborating how both reward structure and especially crowd facilitators role play out on different platforms and in different types of crowdsourcing.

Conclusion

In this article, I embarked on a journey to unpack a particular crowdsourcing platform by asking how winners are found in the competitions it hosts. With a pragmatic approach, I suggested a typology based on reward structure and I used 'moments of valuation' as analytical resource to examine how crowdsourcing for the *best* idea plays out. I found two relevant moments of valuation ('the jury members' work' and 'community management') and by focusing on where

and when they worked, I found that they exist in two overlapping time-spaces: during the competition phase on the platform and during the jury meeting after the competition phase. While the work of the jury in the jury-meeting room is comparable to the work of juries in architectural competitions, the work of the jury on the platform – in forms of unstructured dialogue – is new. The community manager plays an influential role in deciding who wins the competitions. Understanding community management in relation facilitating a crowd is well-studied (see, for instance, Adamczyk, Bullinger, & Moeslein, 2011; Chan et al., 2016). However, understanding the community manager as both a facilitator and a decision-maker is new. Therefore, the article contributes with knowledge on how decision-makers on crowdsourcing platform work and who these decision-makers might be.

Empirical Material

Interview pm: Project manager of Innosite (several interviews, 2014-2016)
Interview cm: Community manager of Innosite (several interviews, 2014-2016)
The interviews were carried out in Danish and the quotes presented above are translated by the author.

Homepages

Alternativet: https://alternativet.dk/om-os/alternativets-historie (in Danish), accessed 5 May 2017
Cisco: https://blogs.cisco.com/tag/crowdsourcing, accessed 5 May 2017
CosmoQuest: https://cosmoquest.org/x/, accessed 5 May 2017
DAA: https://www.arkitektforeningen.dk/Har%20du%20brug%20for%20konkurrencer%C3%A5dgivning/Find%20den%20rette%20konkurrenceform (in Danish), accessed 24 April 2017
Innocentive: https://www.innocentive.com/, accessed 5 May 2017
Innosite: https://www.innosite.dk/start.php, accessed 10 April 2017
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Netflix: http://www.netflixprize.com/index.html, accessed 5 May 2017
OpenIDEO: https://challenges.openideo.com/, accessed 5 May 2017
reCAPTCHA: http://www.captcha.net/, accessed 5 May 2017
Threadless: https://www.threadless.com/, accessed 5 May 2017
Xprize: http://water.xprize.org/, accessed 16 May 2017

Innosite competitions

Rockshell, 2012: https://www.innosite.dk/contest.php?id=5, accessed 18 May 2017
Share The View, 2014: https://www.innosite.dk/contest.php?id=17, accessed 18 May 2017
Sleep Tight, 2014: https://www.innosite.dk/contest.php?id=23, accessed 18 May 2017

Appendix A

From the image 2: A jury member's activities on the platform:

Danish: "Tanken er helt basalt at optimere kollegiet. Alt er fælles bortset fra det mest basale, at man har sin egen seng, et frirum hvor man kan lukke.."

English: "Basically, the idea is to optimize the dorm. Everything is shared, except the most basic, to have your own bed, a space where you can shut.."

[A collected list of references is found in the conclusion of the dissertation]

PART II

CHAPTER 5 ARTICLE 1

CHAPTER 6 ARTICLE 2

CHAPTER *7* Article 3

Jury board at work: competing on architecture and process

The chapter is a slightly revised version of

Jacobsen, P. H. & Kamstrup, A. (2017). Jury board at work – evaluation of architecture and process. In J. Silberberger & I. Strebel (Eds.), *Architecture Competition – project design and the building process.* London: Routledge.

CHAPTER 8 CONCLUSSIONS

Frame: How does dialogue matter in an architectural competition

This chapter changes the momentum, as it leaves the crowdsourcing platform to examine an architectural competition that took place in the Carlsberg City in Copenhagen instead. The competition had a particular setup, in the sense that part of the formal assessment of the participating architects was based on how they entered dialogue with the jury in a series of organised workshops.

Even though the article is presented last in the dissertation setup, it was finished first. My research regarding the digital platform and crowdsourcing practices are shaped by the insights gained from the research to be presented here. Formally this shows, as I have made references to it above. Informally it shows, most prominently, in my understanding of what it means to organise for dialogue in a competition.

Jury board at work: Evaluation of architecture and process

Table 7.1: table of content

Jury board at work: Evaluation of architecture and process

* * * * *

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Abstract

This chapter studies a novel architectural competition termed 'process competition' as it focuses on the particular evaluation processes of the competition. The study is based on ethnographic studies of the early planning phases of a prestigious building project in central Copenhagen. The study includes observations of workshops and jury meetings, in situ interviews, power point presentations and digital photographs. The overarching question we seek to answer is: what happens when architects formally compete on both architecture and procedure? The particular 'process competition' was comprised of organised dialogue between architects and jury board structured in a sequence of workshops prioritizing dialogue and feedback before the final selection of a winner. We show how 'tricky questions' in this dialogue creates 'problematic situations' in which the meaning of the assessment criteria is (re)negotiated. We frame this negotiation as an opening of the solution space of the competition and indicate how asymmetrical knowledge then is generated in different workshops. We draw on Suchman's situated perspective on plans to open an understanding of how visualizations are presented and negotiated in practice.

Keywords: architectural competition, process competition, dialogue, case study, problematic situations

Introduction

In 2006, the Carlsberg Group decided to move their brewery activities to a different part of Denmark. The old brewery area – the future Carlsberg City – is located in the city of Copenhagen and is therefore an attractive location for development. In the coming years, Carlsberg City will be turned into a multifunctional housing, business and recreational area in Copenhagen. This chapter builds on an ethnographic study of an architectural competition organized by a private client to develop and select both a design and a design team for a large building in the future city. The chapter focuses on the evaluation process during a new form of architectural competition. During three workshops held at Carlsberg, four teams presented and discussed their design proposals in front of a jury board. Each team presented their work separately from the other teams and after each presentation the jury board would ask questions to that particular team. The teams were also invited to ask questions to the jury board. The winning team was awarded the right to develop their design in collaboration with the client organization and the users. Therefore, the question we seek to answer in this chapter is: what happens when architects formally compete on both architecture and procedure? In order to answer this question, we examine how the relationship between the assessment criteria from the competition brief and the jury board's professional judgements develops in the above-mentioned dialogue between the team and the jury.

Designing buildings in the upcoming Carlsberg City is considered a prestigious design task[1]. The particular competition format was chosen by the client organization, primarily because they worked under time pressure – a university college with 10,000 students was to use most of the building within a short timeframe if the project was realized. Therefore, the client organization wanted to select not only a team that would deliver the design promised in the competition, but also a team they could collaborate with within the timeframe and budget. In order to test and reward collaborative priorities and skills, this novel competition setup was introduced.

The competition was called a 'process competition' by both the client organization and the Danish Association of Architects, where the latter worked on developing, organizing and managing the competition together with the client organization. This specific competition procedure is not listed as an official procedure on the Danish Association of Architects homepage and the authors do not know of any other competitions in Denmark that follow this specific procedure. The participating teams and the members of the jury board had no prior experience of participating in such a competition setup because it was the first time that such a

process competition had been organized in Denmark. However, the use of dialogue as an integral part of architectural competitions is becoming more common and the findings we present in this chapter are relevant to the further advancement of process-based competitions.

The chapter contributes to a better understanding of how the use of dialogue establishes social interactions and possibilities for participation between the teams and the jury board in the competition. It investigates the dialogue-based evaluation of the design proposals according to different criteria during the workshops. Our study supplements research on the work of competition juries in architectural competitions (Kreiner, 2012; Silberberger, 2012; Van Wezemael et al., 2011) when we show how the assessment criteria both develop and change in the negotiations at the workshops. The negotiations of the meaning of the assessment criteria are closely linked to the competition's solution space, because the assessment criteria evolve when evaluation and dialogues converge at the workshops. Evidently, this affects both the jury board's judgements and teams' work.

There is a particular focus on how the teams deal with a practical dilemma they encounter when presenting their work at the workshop: on the one hand, the teams can present and visualize their design at the workshop and get comments and feedback from the jury board, but on the other hand, the dialogue with the jury board cannot lead the teams to find the right solution to the problem since the criteria for selecting a winner is partly developed during the four parallel and at the same time isolated presentations given by each team. In these workshops, teams are confronted with difficult choices from the feedback they get on their presentation because of conflicting assessment criteria. We show how the teams' conditions for understanding (and learning about) the design task is difficult when the selection criteria are being negotiated during the process competition.

The structure of the chapter is as follows. In the next section, theories of evaluation and judgement in architectural competitions are introduced together with a situated perspective on visualizations and plans – we introduce the situated perspective to understand how a problematic situation takes place at a particular workshop. After that, we present our case study which provides insights into the setup of the process competition, the timeline and the assessment criteria described in the brief, and a short description of the development of Carlsberg City. Then we present our methodological approach and the collected data, before we analyze one particular presentation and the subsequent jury board discussions and evaluations. The analysis focuses on the dilemmas and conflicts that evolve in the problematic situation. The chapter concludes with a discussion of the implications of the analysis and how

the introduction of dialogue becomes both a source of creativity and an opening of the solution space.

Evaluation in architectural competitions

From empirical studies (Kreiner, 2012; Kreiner et al., 2011), we know that competition criteria are not given a priori because preferences within the competition jury develop during the competition process. Empirical studies of the jury's work in four Swiss architectural competitions (Silberberger, 2012) also found that some evaluation criteria are not given a priori; rather, the criteria are found and developed when the jury discusses and evaluates the design proposals (Van Wezemael et al., 2011). We also know that the criteria used to select a winner are grounded in professional norms and intuition (Kazemian & Rönn, 2009; Kreiner, 2012)

Economic sociologist David Stark (2011) argues that the architectural competition is an example of John Dewey's pragmatic understanding of value, because the principles of evaluation are found during the valuation process. Furthermore, Stark reminds us that judgements performed in organized competitions are different from judgements performed in head-to-head competitions and contests. The winner in a head-to-head competition, such as a football match or athletics meeting, can be measured according to a given set of rules: who scores the most goals or runs the fastest. Judgement in architectural competitions is different from head-to-head competitions and contests because designs in architectural competitions are evaluated according to several – often conflicting – judgement criteria.

Stark (2011) notices that evaluation in architectural competitions shares a number of aspects with competitions for national research grants, where a scientific review panel uses scores and ranks the research proposals according to criteria that emerge during the jury's deliberation. Kristian Kreiner (2012) has conducted empirical studies of jury work in a dialogue-based architectural competition. Kreiner mainly focuses on the jury's work and not the jury's interaction with the teams in dialogue-based competition. He observes how the criteria that are used to select the winning design are grounded in the jury members' professional judgement. Kreiner notes that the designs are difficult (or rather impossible) to rank, because the design task by nature is ill-structured (Kreiner, 2012, p. 411), and describes the relationship between evaluation and judgement in the following way:

> They are design proposals produced from a personal view, a unique interpretation of the design tasks developed over time in a sequence of judgments that form the attention and understanding of

> the salient dimensions of the task and their inter-relationships. Design proposals produced in such a manner cannot be evaluated and compared analytically and objectively, since worth and attractiveness of a particular reading for the task must involve judgment.
>
> (Kreiner, 2012, p. 411)

Kreiner's argument supplements another aspect of the judgement process that springs from the understanding of what Cohen, March and Olsen (1972) call the garbage can decision making process, when he shows how the winning design is selected according to the professional intuition of the architects in the jury. The professional members of the jury (the architects) intuitively recognize the winner before the final meeting with the jury where the official decision is made. An important aspect in the competition jury's work is therefore to legitimize the final decision in relation to the assessment criteria when the intuitive judgement comes before the final decision. Kreiner reveals the complexity that is related to evaluation in the architectural competition when he shows that the competition criteria are being developed during the competition, while some aspects of the evaluation process are grounded in stable intuitive judgements made by members in the jury.

Earlier studies have investigated the interactions between jury boards and teams during competitions by focusing on the relationship between learning and decision making (Kreiner et al., 2011) or the role of sustainability assessment tools (Georg, 2015). Our focus on these interactions between jury board and teams are centered around understanding how dialogues influence the knowledge of, and subsequently the decisions by, the jury board. The dialogue in the isolated workshop creates dilemmas in handling asymmetrical knowledge when the jury board accumulates knowledge.

As mentioned above, the client organization want to see how the team's work and therefore the competition's evaluation criteria are different from the traditional open architectural competitions (Kazemian & Rönn, 2009). The assessment criteria described in the competition brief are important in the process competition, but these criteria do not have the same substance as in anonymous architectural competitions. In anonymous competitions, an important principle is that the competition jury does not know the identity of the architects behind the entries (Kazemian & Rönn, 2009). In the process competition, the client organization wants to know the identity of the architects and, furthermore, how the teams present their work. In Jan Silberberger's empirical study of the jury's work in four Swiss architectural competitions (mentioned above), the jury uses assessment criteria that are written in the brief when they evaluate the entries that are submitted anonymously in invited project competitions

(Silberberger, 2012, p. 261). In these competitions, the jury only interacts with the entries when they evaluate.

As mentioned previously, the teams are also evaluated on their ability to collaborate (i.e., their ability to participate in a dialogue, to be able to pose meaningful and relevant questions to the jury board, and to incorporate feedback in a short time frame between the workshops). We see a situation where the jury not only passes judgement according to the assessment criteria that are written in the competition brief (Silberberger, 2012) based on the jury members' capacity to draw on intuitive judgement (Kreiner, 2012) and their general knowledge about the entire construction project, but also according to the verbal and processual skills of the particular architect team. This performative judgement is not only passed based on objective criteria or intuitive and general knowledge but it also becomes relational between the performing actors: the jury board has to decide which team delivered the best presentation and shows the best ability to participate in the dialogue.

In the following, the competition process will be considered as a practice, where the evaluations of the presentation are situated around the discussion of the architect team's visualization of the building and the subsequent discussions. Recently, the situated perspective has contributed to an understanding of how professionals – such as architects – make judgements in practice (Styhre, 2013). In this study, the focus is on how the teams and the jury board in the competition are gathered around discussions about a common cause (E. Axel, 2009) to develop and select the design of the building by judging and selecting a design for the building. The discussions and negotiations in the workshop about the design of the new building are understood as conflictual because the participants have different subjective perspectives on the common cause (E. Axel, 2009): the jury board's on-going evaluations are grounded in different understandings of the visualizations that are related to, for example, economy, functionality and aesthetics.

At a given workshop, the particular team visualizes how the building can be designed and how the team will collaborate with the client organization in the next phases of the construction project. Therefore, the material aspects play a central role. The PowerPoint presentations and pictures the team use as visual representations are understood as an integrated and active part. In practice, the visualizations are a part of the plans and strategies of the architect teams and we understand these visualizations in line with Lucy Suchman's (1987) situated perspective on plans. She argues that people take the world for granted in their everyday lives, but when the obvious and taken-for-granted becomes problematic, people have to represent and use plans in

the practices they are a part of. Representation can occur before a 'problematic situation' (i.e., when the teams make a plan before presenting it to the jury board). But representation can also take place after a breakdown because a situation at the meeting did not make sense (Suchman, 1987, p. 52). Therefore, plans do not determine people's actions – plans are resources for actions in problematic situations (Suchman, 1987). Below we present our case in a more detailed manner, allowing the reader to follow our arguments in the analysis and eventually come to the same conclusion.

Case presentation

The Carlsberg City competition setup

The process competition was centered around the organized dialogues between the four invited teams and the jury board. The jury board was comprised of fifteen persons, with six acting as jury members and nine as advisors. Two of the jury members were appointed by the Danish Association of Architects. The jury board also consisted of representatives from the client organization, the municipality of Copenhagen, the future users, and the competition managers from the Danish Association of Architects. The competition process and progression is illustrated below (Figure 1).

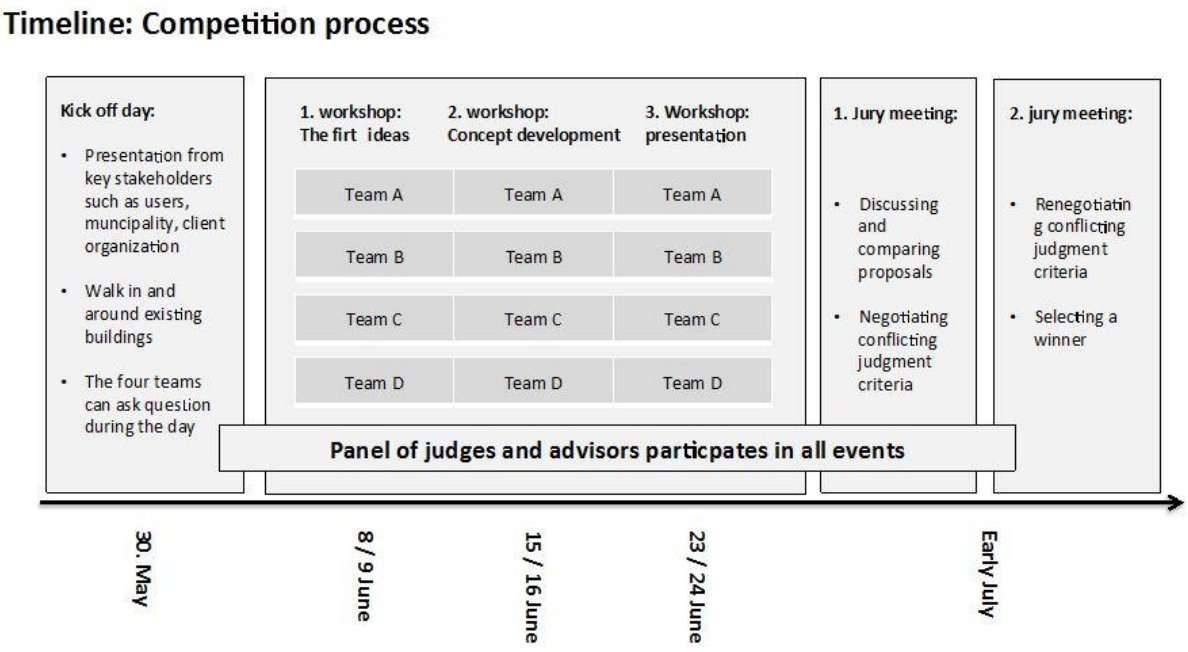

Figure 1: Timeline. Source: Authors

As mentioned above, the workshops are of key interest: here the teams had the opportunity to ask the jury board questions during their presentation, and at the same time the jury board asked

the teams questions. The teams had one week between each workshop presentation to rework proposals and presentations. According to the assessment criteria described in the brief, the four teams were evaluated according to 1) how they visualized the design of the future building, 2) how they would collaborate with the client organization, 3) whether the design could be realized within the given time frame and budget and in a way where all functional demands were met, and 4) fee. The explicit focus on collaboration and teamwork was related to both the ability of the team to work together with the rest of the client organization, the future users and stakeholders.

The members of the jury board participated in all workshops and meetings and therefore they had knowledge about how all four teams worked on their designs. The four teams only participated in their own workshops and the panelists in the jury board could not give ideas and knowledge from one team to another. Some of the teams were nervous about their ideas being given to the other teams during the process and they explicitly asked if they could be sure that their ideas and questions were not given to the other teams. In this particular competition setup, the jury board discussed and negotiated different aspects of the brief with the four teams.

In the following, we will introduce the most relevant ideas in the master plan for Carlsberg City. It is important to keep these ideas in mind when seeking to understand why the competing architect teams act as they do.

Developing Carlsberg City

In 2006, Carlsberg organized an open international architectural competition to find a master plan for the new city area. Two hundred and twenty-one proposals were handed in and the winner was the Danish architect firm Entasis with a proposal called ‘Our space’. On the one hand, the master plan is inspired by the small-scale classical city houses found around Copenhagen, but it also introduces a series of towers, which is a new aspect in Copenhagen where the city centre’s skyline has been strictly regulated with limitations on building height.

Figure 2: Visualization of the building from the competition brief. Source: Carlsberg City District

One of these towers (see Figure 2) is located and grounded in the building that our teams are developing designs for. In line with the client's vision, the master plan aims to create a city that is multifunctional by mixing different forms of dwelling, educational institution, shop and cultural institution. In 2009, the master plan won the prize as the best master plan at the World Architecture Festival in Barcelona. In the years following the open competition, the master plan has been reworked into a number of district plans for the area.

The process competition was organized to produce concrete visualizations of one of the first buildings in Carlsberg City. The building, at more than 80,000 square meters, is located next to a central railway line in Copenhagen and has a budget of 1.3 billion Danish kroner.

The left side of the building – 'The Hanging Gardens' – is listed for preservation and therefore the architect teams needed to integrate them into their designs. During the process competition, the client organization negotiated with future users of the building, including a new university college that wanted to establish a campus for 10,000 students. Therefore, the process competition was a way to visualize how the university college could be a part of the future building. The university college had representatives participating in the workshops because they represented such a large potential user group.

Methodology and data collection

The analysis is based on a single case study (Flyvbjerg, 2006) and focuses on the evaluation of team A's presentation at the first workshop. Our collected data consists of observations of all meetings, workshops and jury meetings (see Figure 1), semi-structured interviews with key informants, in situ interviews, more than 200 digital photographs from workshops, audio recordings from all twelve workshops and the four teams' PowerPoint presentations for each workshop. The data collection started approximately one month before the competition began, with observations of meetings in which the client organization worked on the brief and planned the workshops. Before each meeting, the researchers were provided with agendas and access to work-in-progress documents of the brief in a shared online folder (Dropbox).

The aim of using different methods to investigate the competition process was to understand how dilemmas and conflicts were situated in social practices when the teams were presenting their work at the workshops. The methodological approach to the field is also inspired by Geertz's concept of 'thick descriptions' that has been used to understand aesthetic knowledge as a part of design work (Ewenstein & Whyte, 2007). Before and during the competition, five semi-structured interviews were conducted with key informants. After the jury process ended, seven semi-structured interviews were conducted with representatives from the client organization, user representatives, and leaders from two architect teams and two judges. The semi-structured interviews were structured around themes and dilemmas that were observed during the workshops. Our study is based on the data collected from the first workshops – the 'first ideas'. The following investigation is based on an analysis of the interactions between the jury board and team A at the first workshop (see Figure 1). Data recordings, digital pictures and the team's PowerPoint presentations were used to analyze the dialogues between the jury and the team.

Analysis: inside the competition

We examine a particular instance: the very first meeting between architect team A and the jury board. We divide the analysis in two: first, retelling how the team presented their plans and visualizations and, second, reproducing key elements of the discussion within the jury board. Combining these two instances shows how judgements unfold in the process competition and how the particular dialogues keep changing the solution space.

The team's presentation and visualization

Using data recorded from the workshop, we will present two different aspects of the team's presentation that challenge the assessment criteria of the brief.

The first aspect of the team's strategy is that they suggest moving the tall tower to a corner of the building. The location of the tall tower is defined in both the master plan and the district plan. It is visualized in the competition brief (see Figure 2) and the teams are not expected to challenge this location but rather visualize the façade. Therefore, the proposal goes against the competition brief. The team chose to use visual representations of the building in their presentation and they use the workshop to visualize the moving of the tower based on pictures in their PowerPoint presentation. The team argues that the tower is placed on a base that is not big enough and that the tower will not be slim enough with the placement in the master plan and district plan. The team explains to the jury board that moving the tower will create some problems in relation to turbulence and light, but also that they are working on solving these issues. The team argues that moving the tower will give value to the new functions in the building and valorize the square in front of the building. If the tower is moved to the corner of the building, it will also reflect light on the new square at Carlsberg Station (see Figure 2). Furthermore, the team shows pictures of different models of the building from the material in the brief and illustrates three different positions of the tower for the jury board. In short, the team is using the workshop to suggest and visualize that the tower should be moved and that they would like to discuss this suggestion with the jury board. This example illustrates how the process competition allows for raising questions and suggestions that go against the brief.

The second aspect is about preservation. The team wants to preserve as much of the old brewery building as possible in the design of the new building. Their argument for preserving the building is that they do not think it is possible for architects to design the architectural qualities that are a part of the old brewery building. The team shows pictures of other old buildings that have been transformed where the old buildings have been preserved in new buildings as a part of their argumentation and presentation. The team also suggests reusing materials such as stone, copper and steel from the existing building.

To sum up the team strategy: a number of aspects in the team's presentation challenge the premises in the competition brief, the master plan, and in the district plan by suggesting that some central functions be moved and that the existing building be preserved. The communication in this first part of the workshop is primarily one way: the team presents their visualizations and the jury board watches and listens. The presentation gives the jury board the

first impressions of team A's architectural design (first assessment criteria) and the team as possible collaborators (second assessment criteria).

However, this strategy creates new problems and dilemmas that are related to the design of the building when the jury board discusses and evaluates the presentation. We have a problematic situation because the taken-for-granted is challenged in the team's representation of the building (Suchman, 1987).

Jury board at work

Directly after their presentation, the team leaves the room and the jury board is left with a number of questions that they have to find answers to because they have to give the team feedback ten minutes later. The two mentioned aspects are difficult to answer because the questions touch upon very central issues in relation to the competition brief. The discussion reflects that the members of the jury board have worked with the development of the master plan and have spent several years planning the new city. Some aspects of the evaluation are similar to the evaluation process described in anonymous competitions (Silberberger, 2012), but as already mentioned, aspects became relevant during the team's presentation that challenged the criteria of the competition brief. In anonymous competitions, entries that violate the specifications of the brief cannot normally win a competition (Silberberger, 2012), but in this process competition, the team can test ideas before presenting their final proposal.

Knowledge about the project history is important when the jury board evaluates the presentation. The members of the jury board take explicit formulations in the brief into account in their evaluation. However, all the arguments about why the tower is placed where it is in the building are not described in the competition brief. The members of the jury board draw on their knowledge about the project when they make their judgements. This aspect of the evaluation is understood as being in line with what Kreiner (2012) describes as a sequence of judgements based on the jury board's professional knowledge and intuition. The panel members have to draw on such intuitive judgements when they deliver answers to the team within the short time frame.

Another important issue relating to the jury board's judgement is the preservation of the existing building. Several members of the jury board agree that the existing building is unique, but the members of the client organization do not think that it is possible to achieve the 80,000 square meters in the new building if the old brewery building is preserved. Therefore, the question of preservation opens up concerns for the client organizations regarding economic

and functional feasibility (third competition criteria). Below, we reproduce some of the conversation between the jury board panellists. We focus on examining how the team's presentation of the problematic situation was dealt with.

Client advisor:	I agree that constructing two basements below an already existing building contains a lot of challenges … and so you would have to examine what could be done instead. If you [the team] convincingly can argue that you [the team] would be able to solve the issues – the requirements and wishes – the everything is fine …
Project manager	Yes, yes.
Client advisor	It is an exercise we have been through, realizing that we did not ourselves have the competences to get the amount of square meters necessary in the existing building, and then the project simply falls apart …
Jury member 1	That is a splendid attitude. If it can be formulated like that to them [the team] then …
Project manager	I agree …
Client advisor	But are they [the team] able … everyone thinks this building is very beautiful, it is not like we do not want it. What we have not been able to realize … as soon as money is involved the project falls apart.

The client organization and their advisors have been working on a way to preserve the old brewery building, but it has not been possible to find a solution where all demands are met. Based on their evaluation of the presentation, the members of the jury board agree on telling the team that they have been working intensively on preserving the old building, but that the client organization has not been able to find a solution. Based on the team's presentation, the members of the jury board discuss the solution space based on the premises in the brief. The members representing the client organization are open enough to reconsider this solution space.

However, a new problem arises that is related to the question of preserving the old brewery building: can the team preserve the old building so that it doesn't collide with the assessment criteria in the brief? The problematic situation affects the jury board's work. The jury board has to renegotiate the meaning of the assessment criteria before they meet with the team again. To do this, the jury board discusses how much of the building the team wants to preserve, again based on their presentation. It is not clear from the presentation whether the team wants to preserve the entire building or just parts of it. The jury board has to take a look at the original formulations in the competition brief.

Competition advisor	((Reads for the rest of the jury board)) Ok! Expected to be torn down!
Several advisors	What do you say?

Competition advisor	((Reads again)) The brewery building including the train building can be expected to be torn down!
Several advisors	That's an opening!
Jury member 2	Then they have a challenge with the square meters!

In the brief, it is written that the old brewery building is expected to be torn down. In the district plan, it is written that some of the old building's façade can be preserved. If the team chooses to proceed with their strategy of the building being preserved then they have a challenge concerning the number of square meters available, as jury member 2 states.

The team enters the room again and the jury board tells them that the building has to be at least 80,000 square meters for the project to be realized within the economic framework. The team announces that they are looking both above and below the existing building to find these square meters. One of the problems with preserving the old building is the large amount of water under the construction site. One of the client advisors tells the team that it is a problem to dig into the water and that the geologists would have to rewrite the history books because the soil under the construction site is as hard as concrete. Such hard soil has never been seen before.

Concluding discussion

We have described and analyzed the evaluation process in a new form of architectural competition. Our case analysis has shown how evaluation in the process competition takes place in the interaction between the team and the jury board in an early phase of the process competition. We argue that this evaluation is crucial in order to understand the architectural solutions that are developed in the competition. Furthermore, we argue that assessment criteria are not given a priori, rather the competition criteria are developed and negotiated in the competition process. Our analysis showed how team A's visualizations created a problematic situation which the jury board had to take into account in their evaluation and feedback to the team. A new understanding of the assessment criteria emerged from the jury board's negotiations just after the team's presentation. In the evaluation, the jury board assessed the presentation according to the criteria formulated in the competition brief, but also according to their broader knowledge about the Carlsberg project. The team received feedback based on this new understanding and interpretation of the assessment criteria by the jury board.

The analysis of the team's presentation has shown that a number of problems and dilemmas have to be faced when the team challenges aspects of the competition brief. In one way, it is perceived as positive when the team challenges the brief and raises 'tricky questions', as one jury member formulates it in the feedback to the team, but this challenging strategy also created

dilemmas that the team had to consider before the next workshop. In the process competition, the team can test ideas that would violate the programme in anonymous competitions (Silberberger, 2012). In the dialogue between the teams and the jury board the solution space can be negotiated before the teams present their final proposal. But the dialogues with the jury board at the workshops raise new questions. After the workshops in the process competition, the teams reconsider their plans after getting feedback from the jury board. In the situated perspective, it is not the essence of the plan that is interesting (Suchman, 1987) and this is also the case in the process competition. Rather, it is how visualizations are used in practice and what relationships they have with other social and material plans, such as the master plan and district plans for the entire Carlsberg City, that become relevant.

The suggestion of moving the tower illustrates how the team's visualizations of their plan creates a dilemma because the location of the tower is connected to the jury board's knowledge about the development of Carlsberg City. The team tells the jury board that they are already working on the consequences of moving the tower: at the workshop, they explain that it creates problems with turbulence and reflection of light on the square around the building if the tower is moved, but the team is surprised when the jury board tells them that they have been working on moving the tower for months and have been struggling with a strict regulation of the placement of the tower in the city plan. Therefore, the question about moving the tower contributes to surprising feedback and knowledge for the team's work.

Our situated understanding of evaluation and plans (Suchman, 1987) opens an understanding of how conflicting views become present in practice when the team visualizes their design of the building, and that dialogues entail both possibilities and limitations in the competition process. When the team challenges how the building could be designed, they open up questions that relate to why the competition brief is formulated the way it is, and thereby challenge the basic criteria of the competition as formulated in the brief. When the team challenges the criteria and asks if they can preserve the existing building, the jury board have to discuss and negotiate the formulations in the competition brief. The dialogues within the jury board and the dialogues between the architect team and the jury board illustrate contradictions that are grounded in different concerns related to the building. In particular, the question of preserving the old building clashes with the requirements for the number of square meters in the building. When the architects suggest preserving the existing building, they are met with concerns that relate to functions and economics (competition criteria three). These concerns are again related to business plans for the building.

The team has to consider these contradictions and dilemmas in relation to their design work before they present at the next workshop. How is the team supposed to handle the dilemmas concerning moving the tower? Should the team stick to its plan or move the tower back again for the next workshop? Should the team proceed with developing a design of the building that integrates the old brewery building? It is not possible to find one correct solution to these questions, which is why the team's work is riddled with dilemmas.

Also, these choices that guide the team's presentations in the process competition are not just about the design of the building. They have to adopt the feedback and present again a week later at the next workshop and demonstrate that they have listened to the jury board's feedback from the dialogues at the workshop. The jury board are already evaluating the team as potential collaborators. The process competition is also about demonstrating that the team is able to listen to what the future employer is saying. But how does the team adapt to feedback that is grounded in contradictions? Is the right strategy to stick to the plan and hope to convince the jury board or is it to follow the guidelines from the jury board and change their plan accordingly? More research is needed to understand the contextual dilemmas and problems that are part of new forms of architectural competitions such as the process competition.

We find it noteworthy to mention one last challenge in relation to interactions between the jury board and the teams: the size of the jury board. This aspect was discussed at a seminar in January 2016 concerning novel architectural competitions. We presented the case study and some of the findings that we have analyzed in this chapter. Several participants at the seminar also participated in the process competition and they expressed that it was difficult to understand which comments and feedback counted in the final evaluation when they were confronted with a jury board that consisted of many members with different agendas. A current form of process-based competition that is often used in Denmark is a two-phase project competition. In these competitions, the jury only consists of four or five persons. One of the arguments for limiting the size of the jury board is to eliminate conflicting judgement criteria, since the team negotiates with only a few people.

[1] The competition was publicly announced on the Carlsberg City homepage and on the Danish Association of Architects homepage. Seventeen teams with five architect firms in each team applied to participate in the competition process. The four teams were selected by the client organization based on a short description of their team and CVs.

[A collected list of references is found in the conclusion of the dissertation]

PART II

CHAPTER 5 ARTICLE 1

CHAPTER 6 ARTICLE 2

CHAPTER 7 ARTICLE 3

CHAPTER 8 CONCLUDING REMARKS

The main purpose of the chapter is to round off the inquiry. First, I sum up the articles, and then I answer the main research using the notion of organisational technologies, before I propose three areas of contributions. Before closing the dissertation, I outline some areas for future research.

In the early phases of my project, I was occupied with finding out if the crowdsourcing on Innosite could be regarded as an architectural competition. As my research matured and I began to know more about the practices on the platform and gained knowledge stemming from architectural competitions, I began to approach this in a more pragmatic manner: the crowdsourcing platform and architectural competitions are organised in much the same manner, allocating and suggesting a comparable division of labour between roles as well as using a centrally formulated challenge to engage with decentralised actors. I will unfold this below. Of course, it is not surprising that examining crowdsourcing in the light of architectural competitions makes them begin to look like each other. Or framed a bit differently, crowdsourcing was my first 'empirically given' interest and by using knowledge stemming from architectural competitions as a flashlight to illuminate particular areas of the particular crowdsourcing practices I was interested in, I also learned something about this flashlight.

This is the final chapter and here I will sum up and conclude on the analyses and arguments made throughout the dissertation. I will first do a summary of the three articles. Then I will call on the notion of 'organisational technologies' which was established in Chapter 4 to discuss both cases and all three articles simultaneously. Applying organisational technologies in this way is suggestive, as I did not explicitly use them in the analytical part (Chapters 5-7) of the dissertation. However, this will enable me to answer the main research question. After this I will suggest three areas of contribution, which is to literature(s), methodology and practice. The contributions to literature is further divided in into 'openness, dialogue and communication', 'competition facilitators' and 'the role of the material'. After this, some areas of future research are suggested, before a brief outro closes the dissertation.

Summarising three articles

In the first article, I call upon an affordance approach to analyse how openness plays out on a crowdsourcing platform. I identify four affordances, which allow me to conclude that the particular platform has a wide outreach and it is relativelt easy to participate in the hosted competitions. However, the intended collaboration between crowd members is non-existing. Instead, the crowd members use the platform design features meant to stimulate collaboration to appropriate each other's work. Based on these findings, I suggest a grammar consisting of five dimensions to nuance how openness can be understood. The article primarily contributes with knowledge of *how* the concrete design of crowdsourcing platforms

matters to the practices unfolding on it as well as specifying that when openness is a central design principle, the results be surprising.

In the second article, I draw on valuation studies and especially 'moments of valuation' to examine how the same crowdsourcing platform establishes winners. I show how both the jury members and the community manager are involved in making winners and that this 'involvement' is shaped by the design of the platform. I establish two relevant moments of valuation and show how they co-exist and overlap, thereby influencing each other. The work of the jury members is somewhat comparable to how jury members work in dialogue-based architectural competitions, only the communication (as unstructured dialogue) between crowd, community management and jury members unfold differently on the platform. The community manager plays a surprisingly decisive role as she works to establish the preselection of proposals from which the jury members make the final selection. I suggest understanding the work of the community manager as a curator, as she works as intermediary to install pieces for others to assign value to. The article contributes with knowledge on how crowdsourcing platforms make winners and especially on how community management in crowdsourcing competitions unfolds.

In the last article, we address how a 'process competition' works, that is, what happens when architects formally compete on both architectural output and process. In this particular setup, it is explicitly stated that participants in the competition will be assessed based on their ability to collaborate and to engage in dialogue. To test this, the competition is designed as a series of workshops where the jury asks questions to the architects. The architects are then expected to find answers to these questions and incorporate this before the next workshop session. However, during the same workshops the architects also ask (tricky) questions to the jury. Some of these questions create dilemmas for the jury as they cannot give simple answers. Instead, the jury must revisit the competition brief and (re)negotiate its meaning and therefore the architect teams help to form the assessment criteria that will be used to select the winning architect team. The article contributes with knowledge on how dialogue plays out and matters when having a formal role in the competition setup.

Answering the research question

This dissertation is guided by the main research question, which asks how crowdsourcing and architectural competition technologies are organised to create answers in architecture and the building industry. To specify and make this question more operational I did two things: I empirically linked it to the two cases I have been examining and I analytically posed a follow up question, asking how crowdsourcing and architectural competitions can be examined as organisational technologies. We could say that with this notion, I aim to establish a way to speak organisationally about crowdsourcing and the architectural competition 'in the same sentence' or – as I formulated it in Chapter 4 – to speak about crowdsourcing and architectural competitions in an organisational manner.

I established the notion of 'organisational technologies' in the first part of Chapter 4. To do this I drew on wide range of traditions (including pragmatism, a Foucault-inspired approach, STS/ANT as well as contemporary re-readings of classic organisational theory). I noted that crowdsourcing and architectural competitions can be examined as organisational technologies when they, for instance, establish or allocate roles, suggest a division of labour between these roles and install tasks, purpose and reward structures in order to render organisation (possible).

Guided by this understanding of organisational technologies, informed by the reading of the literature(s) and results from empirical work as well as my analyses in the three articles, I suggest that both crowdsourcing and architectural competitions are organised to install a certain relationship between a centralised actor and decentralised actors. This relationship is stabilised by installing a purpose (to create answers); by allocating roles (client/competition owner; crowd/architects; jury; community manager/competition advisor); suggesting a division of labour (central actor formulates a challenge in a competition brief, which the setup communicates to the decentralised actors who in turn create answers, from which the jury select a winner); and by suggesting a reward structure (competition-based, the best proposals take the prize).

Building on this abstract understanding, I am now able to answer the main research question, where I asked how crowdsourcing and architectural competition technologies are organised to create answers in architecture and the building industry.

The Innosite platform hosted several competitions that were all structured as competitions to select a winner. Only the winner (and possible runners up) was awarded a prize. The relationship between the central competition owner and the decentral crowd was stabilised by the purpose of making innovations in the building industry. The relationship was further stabilised on the digital platform. It was shown how the crowd accepted the purpose by joining the platform and by finding it relatively easy to participate in competitions. Besides the competition owner and the crowd, also other roles were established by the platform design, most importantly the community manager and the jury. The platform suggested a division of labour, where the competition owner with help from the community manager formulated the competition brief to contain a challenge and the associated assessment criteria. This competition brief was uploaded on the platform and the crowd members answered the challenge. However, the crowd members did not interact as the suggested by the platform design, as they did not interact or collaborate with each other on the open platform. Rather they used the openness of the platform to appropriate other crowd members' work and incorporate this into their own proposals. To turn proposals into winners, the platform design suggested that crowd members should rate each other through a rating module: this should serve as a prequalification and then the best rated would enter the dedicated jury meeting, where the final winner would be chosen. However, the community manager did not accept this suggestion by the platform design, as she disregarded the results of self-evaluation module and instead chose – based on intuition – the proposal she believed the jury members wanted. The jury members did make the final selection. However, (some of) the jury members were also acting as community managers, as they actively engaged with (some) uploaded proposals by 'liking', giving feedback and suggesting improvements, which made it difficult for the crowd members to navigate. The jury members were asked to be active on the platform by the operating team.

The Carlsberg City competition was structured as a competition to select one architectural team and a design for a multifunctional building that would also serve as a landmark in Copenhagen. As it was an invited competition, all four architect teams were awarded a fee for participating. The relationship between the central client organisation and the decentralised architects was stabilised by the purpose of creating answers in architecture and the building industry. The relationship was further stabilised in a series of workshops. As it

was an invited competition, four teams out 17 applicants had been chosen. Besides the client organisation and the architects, also other roles were established in the dialogue-based competition, most prominently the jury and the competition advisors. The competition setup suggested a division of labour, where the competition advisors helped the client organisation to formulate a competition brief. The competition advisors also helped to organise the competition and facilitate the workshops. The competition brief was distributed to the four participating architect teams who – in a series of workshops – established a dialogue with the jury bord. To support claims and arguments the architect teams used visualisations and plans, and the dialogue opened up not only for discussions of particular architectural suggestions, but also for renegotiations of the meaning of the assessment criteria and the competition brief. The winner of the competition was found based on these renegotiated assessment criteria.

Both cases are organised to create answers by establishing a certain relationship between the central and the decentral. This relationship is stabilised on a digital platform and through workshops, respectively, but in both cases the competition brief and the assessment criteria play an important role, as they are (re)negotiated (or de-stabilised and re-stabilised) in different ways. In the first case, the focus is on how the assessment criteria are being handled in two different ways by central actors during the competitions. The jury on Innosite negotiates the meaning of the assessment criteria when they pick the final winner, but before that, the community manager questions the relevance of these assessment criteria, as she draws on her intuition to do a prequalification and decide which proposals to present for the jury. In the second case, the focus is on the re-negotiations of the broader formulations in the competition brief: the dialogue between jury members and the architect teams in the Carlsberg City competition results in the competition brief being challenged, and therefore that the architect teams can influence and shape how they are assessed.

There are some important differences between crowdsourcing and architectural competitions as exemplified through my cases, which must be mentioned in order to answer the research question satisfyingly. It has already been hinted at that the ‘material’ aspect of the organisational technologies differs: the Innosite platform is designed to function as an archive, where previous answers (in the form of uploads) are stored and accessible. Furthermore, it is also designed with functions such as ‘like buttons’ and attached ‘evaluation

modules' (see Chapter 5). The competition in the Carlsberg case is established around a series of workshops where dialogue is designed to take place in a certain way. Therefore, the 'materiality' (or concreteness) of the two competition formats are different.

Next, also the difference between the decentralised actors in the two cases is important. On Innosite, the participation process has been designed to be as open and inviting as possible regarding both the technical and more cognitive side (being able to decode what the centrally posed challenges require in terms of answers) of participating. The design mantra was to be as open as possible and to have all kinds of participants – both experts, specifically trained and educated persons as well as lay persons. In the Carlsberg City case, the participants are trained (and prequalified) architects. When installing a relationship between the central and the decentral it mattes how 'the decentral' are conceptualised and invited. It matters whether the invitation to participate is extended to actors with a certain profession, experience and training (architects) or if the invitation to participate is extended to maximize numbers of recipients of the invitation (crowd members).

A third difference has to with how dialogue or communication actually unfolds. Due to the complete openness of the Innosite platform, all involved actors can – at any time – potentially enter dialogue and communication. The competition participants (crowd members) know this, but is difficult to act on it, as they cannot reach out to the jury members. Rather, they must wait to see if jury members wish to interact with their proposals. There is almost no dialogue between crowd members, but they do communicate indirectly as they appropriate each other's proposal. As mentioned, the dialogue in the Carlsberg City competition is organised to play out in three workshops. Here the architect teams know that the jury listens, because one of the assessment criteria states that the winner must be chosen with regard to how the participating teams collaborate and enter dialogue with both client organisation and future users. Therefore, this becomes a (potential) object for strategic optimisation as the participants know they will be explicitly evaluated not only on architectural quality and budget, but also on the capacity to enter dialogue and incorporate feedback into the initial proposal. As the two communication forms are different in both scope and impact, I suggest distinguishing between them: the *formal* dialogue unfolds at a specific time and place whereas the *informal* dialogue is unscheduled. In formal dialogue, tricky questions can be posed which, in turns, can result in problematic situations. In informal dialogue, it is difficult

to pose tricky questions because of the lack of investment between the decision-makers and the competition participants. It is important to note that both the formal and the informal dialogue are outcomes of the differently organised competition setups.

A final important difference regards the role of the facilitator. On the crowdsourcing platform, the community manager plays an important role in facilitating between the decentral and the central. It was surprising to learn that the role played by the Innosite community manager was as active as it was in influencing the process (see Chapter 6). In the Carlsberg City competition, the competition advisors had the faciliatory role. They were not active in the same sense as the community manager during the competition, but as they were the ones who designed the process (the series of connected workshops) they have also played a significant role in shaping which answer eventually would – or could – become the winner: The community manager played a very direct role as she both gave direct feedback on the concrete early-stage answers and established a role of prequalifying (or curating) the selection of answers presented to the jury. By contrast, the competition advisors in the Carlsberg competition shaped the answers in a more indirect way as the designers and 'enforcers' of the process; by being active and posing question during the workshops and referring to the rules and aims of the dialogue competition. As seen in Chapter 7, being able to understand how to enter dialogue and being able to pose (tricky) questions help shape the 'solution space' and therefore the particular design of the Carlsberg City competition gives some participants advantages over others.

With this, it is now possible to give a (shorter) answer to the research question. I propose that crowdsourcing and architectural competition technologies are organised to create answers in architecture and the building industry by installing a certain relationship between the central and the decentral. Even though this relationship is stabilised in different setups and include different forms of dialogue and communication, they both include negotiations of competition briefs and assessment criteria. Both crowdsourcing and architectural competition technologies establish a somewhat comparable jury role, and both technologies also establish a facilitator role that – in practice – works in quite distinct ways.

Contributions

Before suggesting how the dissertation seeks to contribute with knowledge and advice, it is imperative to remember the epistemological considerations voiced in the methodological chapter above: within the pragmatic approach subscribed to by the author, findings, outcomes, effects and so forth are always local as they are results of particular inquiries. A similar concern – or comment – was raised when discussing what it means for this research project to work case-based, where local knowledge was discussed in relation to the possibility of making generalisations. In other words, it is important to reflect on who can learn from my findings and what they can learn. A potential pitfall of scholarly work is to (try to) applicate where it is inapplicable. With this in mind, I suggest three areas to which my dissertation contribute: literature, methodology and practice.

Contributions to literature(s)

From the elaborate answer to the research questions above some contributions to the literature on crowdsourcing and architectural competitions emerge. To a smaller degree, also innovation studies and economic sociology/valuation studies are addressed. As these literatures are rather distinct, this section is called contributions to literature(s). I see three main contributions, which I elaborate below: 'openness, dialogue and communication', 'competition facilitators' and 'the role of the material'. As argued when positioning my research to the literature (Chapter 4), such literatures are not naturally given, but rather they are constructions partly depending on research problems and strategies of analysis, partly on the given empirical focus area, and partly on the knowledge already present to the researcher. Evidently, the three contributions suggested below overlap in terms of which literatures they address. This is not surprising as they spring from the same research project, research problem and the same researcher. However, for the sake of overview I have aimed to keep them separate distinct in three sections.

<u>- openness, dialogue and communication in competitions</u>

Throughout the dissertation, I have made the pragmatic argument that competitions work to (as the raison d'etre) find or make winners. That is the outcome of a competition. This can, however, be expanded: To find winners someone (or something) must enter (or be entered

into) the competition.[47] If nobody (or nothing) is competing, there is no competition. Therefore competition organisers must have participants and one way of securing or retaining these, is if a given competition is viewed as legitimate by the participants (Kreiner, 2010).

In establishing a legitimate competition, two themes seem to be recurrent: a transparent process and a fair evaluation. These two themes are entangled in the sense that they both involve the participants' engagement in and with the competition. Process-transparency refers to participants being able to understand how the competition process is designed and unfolds, and fairness has a slightly more normative component, as it refers to participant's acceptance of the particular evaluation process that governs the competition and therefore finds the winner. In short, if a competition setup is to be deemed legitimate, participants must understand and accept the governing rules. This applies both for competitions with only written down rules (such as chess), for competitions that depend on a third party to interpret written down rules (football), and for competitions where decisions are not (only) made according to elaborated rules but (also) with reference to professional intuition such as the architectural competition (Kreiner, 2012).

In earlier chapters it was unfolded how especially in the Scandinavian countries and in Denmark architectural competitions are designed with some variance. As elaborated, one dimension is whether the competition is open or invited, and another dimension – often connected with the first – is whether there is anonymity between participants and decision-makers or not. In a particular competition, these dimensions are always elaborated, because choosing – for instance – an open or invited format matters when participants are to 'understand and accept the governing rules'. My research contributes with knowledge about what openness means in competitions, how it plays out, and what it can result in. Traditionally, openness in competitions is understood as outreach and the possibility to participate in order to activate a crowd far beyond the clients networks (Chupin, 2011; Kazemian & Rönn, 2009; Lipstadt, 2003). My research shows that there is a distinction between what we could call being formally or technically open and being de facto open. This was shown in Chapter 5, where the platform was indeed completely open technically, but to

[47] As the focus is on concrete competition setups, the discussion sidesteps an otherwise interesting point touched upon in Chapter 2: To which extend is society at large becoming a competitive society in which we are always-already enrolled in competitions, or rather, competitive setups.

a somewhat smaller degree also open for actual participation. However, what is even more accentuated by my research, is how openness plays out in competitions as ongoing communication or dialogue between competition participants and competition decision-makers. In open, anonymous competitions (Larson, 1994) decision-makers and participants know nothing about each other and proposals (what I have called 'answers') are evaluated based on their inherent qualities.[48] In a traditional non-anonymous, invited competition (Rönn, 2012; Svensson, 2013) the decision-makers have knowledge about participants and what they contribute with. Even though arguments for and against exist, both forms are viewed as legitimate, arguably because the process is transparent and the evaluation is viewed as fair. In concrete terms, the non-anonymous, invited competition, for instance, offers the decision-makers knowledge on the participants' capacity to follow through and realise a given proposal. This is important in the architectural world, where a design-proposal enters a competition, but it needs to result in a realised building.[49] However, in my two cases there is a continued communication or dialogue between decision-makers and participants. Even though the forms of these dialogues are distinct (formal dialogue in the Carlsberg City case and informal dialogue in Innosite case), both work to establish multiple and distinct solutions spaces. Since a proposal develops as a result of particular dialogues between the central decision-maker and the decentral participant, it will also be evaluated in a particular space. In a non-dialogue competition, the solution, or rather, evaluation space is – at least in principle – a general space shared by all proposals. The establishment of such multiple and distinct evaluation spaces is challenging a traditional understanding of legitimate competition, as the competitions entries cannot be expected to be evaluated on the same terms. As mentioned, the literature on architectural competitions has begun to focus on novel competition setups (Georg, 2015; Jacobsen, 2014; Kreiner & Jacobsen, 2013; Kreiner, Jacobsen, & Jensen, 2011), but exactly how dialogue and communication as particular form of openness is influencing both outcome and especially the legitimacy of a competition format, is an understudied phenomenon in architectural competitions.

[48] This was the ideal proposed by Adam Smith, when he argued against monopolisation and for 'purer' forms of competition determined by demand and supply (Kurz, 2016; Smith, 1776).In his line of thinking, 'a good' (or a proposal or an answer) is stripped from any information except its price (or inherent qualities)

[49] Within architectural competitions this distinction is captured in the difference between idea-generating competitions and project competitions.

- competition facilitators

The research also contributes by adding new knowledge to and perspectives on the role of competition facilitators. Facilitators is to be understood in the broad term involving both process designers, process consultants, competition operators, competition managers and so forth. One demarcation is that, in principle, the facilitator role does not have any formal decision-making privileges when it comes to selecting the winner of the competition. In my two cases, the facilitator role has been played by the community manager and competition advisors, respectively. In the Innosite case, the community manager is responsible for the 'smooth operating' of the platform, that is, it falls within the community manager's role to facilitate and 'groom' the crowd and engage with answers in form of uploaded proposals. As it was elaborated in Chapter 6, the community manager plays a very important role as she – besides engaging with crowd – builds bridges to the final evaluation where the jury board members make their selection to find the winner. From the Carlsberg City case, we learn that the competition advisors who have designed the process are also involved in the dialogue as they council the jury board. An important similarity between the cases is how the facilitation is necessarily about engaging with some proposals and some themes, thereby downplaying the importance of others: It is not a neutral role. An important difference is that the facilitators in the Carlsberg makes decisions informed by explicit rules, whereas the facilitators on the Innosite platform (also) makes intuition-based decisions. This aligns with Kreiner's (2012) research on experts and laymen, where he argues that a key difference is how experts draw more extensively on intuition when making decisions.

Overall, the role of competitions advisors as facilitators is not particularly well explored in the literature on architectural competitions. However, it is at times approached in articles focusing how the invited competition works. In a central article, Rönn (2012) examines – in concrete terms – how architects are appointed to such invited competitions. He does this by elaborating how competition organisers work, when they on behalf of clients design and set up competitions by inviting and prequalifying architects. As mentioned in the literature review, Rönn distinguishes between two principles, which organisers use to steer the process: ex-ante and ex-post. He argues that ex-ante is about steering a process '*ahead of time* through the competition task, the competition conditions and the choice of competing architect firms' (Rönn, 2012, p. 12) and that ex-post steering 'means that the competition is

steered “afterwards” by the design and the jury’s assessment of the competition proposals’. (Rönn, 2012, p. 12). He argues that that the invited competition is about ex-ante steering and the open competitions is about ex-post. It would be expected that facilitators mostly steer ‘ahead of time’, that is, by influencing the setup, defining the competition conditions and so forth. However, in my cases (arguably to a lesser extent in the Carlsberg City case) these two steering principles collapse in the role of the facilitator as they are drawing on both ex-ante and ex-post steering principles. As such, my research calls on a distinction between competition organisers and competition facilitators, where the latter are actively involved in the entire competition process, whereas the first are mostly involved in staging the competition.

In research on digital hosted competitions such as crowdsourcing the role of facilitators has been a subject for several inquiries (see, for instance, Blasco, Lakhani, Boudreau, Menietti, & Riedl, 2013; Brabham, 2010; Kosonen & Henttonen, 2015; Parvanta, Roth, & Keller, 2013). Chan, Dang and Dow (2016) argues that real-time facilitation can improve the quality and usefulness of inputs coming from crowdsourcing, depending on how skilled and experienced the facilitator is. Zuchowski, Schlagwein and Fischbach (2016), argue that when organisations use ‘internal crowdsourcing’, that is, when the call is open only to selected actors inside an organisation, the facilitator of such processes must have a different skillset compared to when crowdsourcing is completely open to also include the outside of the organisation’s boundaries. They argue, for instance, that breaking down a task into crowdsourcable parts is heavily depend on how open the call is. To add to these insights, I argue that the way the facilitator engages in communication with the crowd matters – especially it matters how such communication is structured: how it plays out and how/if the facilitator is involved in making other decisions in the competition (or organisation). Evidently, how digital *and* face-to-face facilitators are able operate is shaped by the concrete setup of the competition, its materiality.

<u>- the role of the material</u>

A third area of contribution is prompted by researches on architectural competitions and evaluations, when they argue that dialogue in architectural competitions is a social technology (Kreiner et al., 2011; Stark, 2009). Studying both how communication unfolds in a crowdsourcing competition (supported by ‘likes’, comments and ratings) and in a dialogue-

based competition (supported by visualisations and plans), 'social' technology seems inadequate. This research project therefore suggests that dialogue in competitions cannot properly be understood as a strictly social phenomena as this would make us overlook the role of the material. In the dissertation, the role of the platform design and the role of plans and visualisations have been studied with help from two pragmatic inspired traditions: an affordance approach (Gibson, 1979) and a situated perspective (Suchman, 1987), respectively. The insight that the concrete material setup matters is not new, as it has been suggested by several traditions (see, for instance, Latour, 1992; Orlikowski & Scott, 2008). Also not in the research on architectural competitions the role of artefacts is understudied as such – for instance competition briefs (Stang Våland, 2009), master plans (Jacobsen, 2014), assessment criteria (Kreiner, 2009), models (Sørensen, Frandsen, & Øien, 2015), visualisations (Jacobsen, Harty, & Tryggestad, 2016; Spallone, Turco, & Sanna, 2009) or the architectural quality (Kornberger, Kreiner, & Clegg, 2011; Rönn, 2011) have been subject for examination. However, to understand my nuancing of this literature I suggest a distinction between taking interest in particular artefacts and taking interest in the architectural competition and examine how it is supported or shaped by the material. The literature above has primarily done the first and only in the recent work of Gottschling (2016, 2017) and partly in Jacobsen (2014), I find an (implicit) ambition to do the last.

Regarding the 'material conditions' of crowdsourcing it has been common – as pointed towards in the literature review – to take interest in *what* the crowdsourcing platform does (Bayus, 2013; Leimeister, Huber, Bretschneider, & Krcmar, 2009; Poetz & Schreier, 2012), rather than *how* it does it, and when 'the how question' has been raised, most focus has been put on crowd composition (Brabham, 2010; Zheng, Li, & Hou, 2011), management or facilitation of platform (Chan et al., 2016; Malhotra & Majchrzak, 2014) or the relation between the posed challenge and the proposed answers (Brabham, 2008; Yuen, King, & Leung, 2011). This is summed up by Afuah and Tucci, when they claim that 'under certain circumstances crowdsourcing transforms distant search into local search […] These circumstances depend on the characteristics of the problem, the knowledge required for the solution, the crowd, and the solutions to be evaluated' (2012, p. 355). This quote shows how the particular design of the platform (its materiality) not is given a decisive role in shaping

whether crowdsourcing can turn distant search into local search, or in short, whether crowdsourcing works.

The concrete analyses made in Chapters 5 and 7 focuses on concrete material artefacts (affordances of the platform and the situated use of plans and visualisations), but as aspects of the materiality of the competition in order to say something about how the competitions work – or in order to say something general about the materialities in which the competition is embedded and what this means. The design of the platform co-constitutes the kinds of dialogue and communication that can take place and the analysis is, that the Innosite platform shapes the communication to be informal. On the contrary, the dialogues examined in the Carlsberg City case unfold in a series of workshops where the participating architect teams are in conversation with the jury board. Here the analysis is, that the (material) setup (including particular artefacts such as plans and visualisations) as a continuous face-to-face dialogue between the central decision-makers and the decentral participants results in a formal dialogue.

This contributions on the role of the material can be summed up in a discussion with Stark (2011), who argues that architectural competitions are a prime situation for studying how evaluation criteria change or acquire meaning during a particular competition. To this my research contributes in two ways. First it agrees with Stark's argument, as parts of the evaluation process in both my cases involve the establishment and (re)negotiations of assessment criteria. Second, it also adds to Starks understanding because parts of the evaluation criteria are embedded in the platform design or infrastructure (Kornberger, Pflueger, & Mouritsen, 2017), as the crowd use the platform to look for winners of earlier competitions, when developing their own proposals. In this sense earlier evaluations become co-constitute for how new answers are composed.

A methodological contribution

Establishing the notion of organisational technologies to bring crowdsourcing and architectural competitions abreast was an experiment primarily occasioned by two ambitions: First, I wanted to be able to examine crowdsourcing in the light of architectural competitions, without reducing the first to a subset of the other. To do this, I needed to 'place myself outside' the relation between the two. Returning to the metaphor suggesting

architectural competition research as flashlight, the aim was to talk about the illuminated and the illuminator without giving one of them complete primacy. Second, and more concretely, I wanted to examine crowdsourcing and architectural competitions as dynamics that do things to and with organisations. Therefore, I needed a notion that would support this interest. At a point Shirky's notion on 'organizing without organizations' (2008) seemed appropriate. With this notion, Shirky takes interest in 'what happens when people are given the tools to do things together, without needing traditional organizational structures' (Shirky, here quoted from Fitzgerald, 2012). According to Shirky, crowdsourcing could be seen as a prime example of a tool that does not need traditional organisational structures. However, my research has emphasised that both crowdsourcing and architectural competitions depends on organisations. The central challenge-poser does not necessarily rely on 'traditional organisational structures' to formulate a challenge, but – as I argued above – the certain relationship between central and the decentral works by installing purpose and tasks, allocating roles and suggesting a division of labour i.e. much like organisations. Another way of articulating this issue could be with help from Lipstadt's (2003) and Dirckinck-Holmfeld's (2016) historical account on architectural competitions: they argue that it was interactions between wealthy clients and builders that eventually led to the formalisation and institutionalisation of the architectural competition. Alongside this institutionalisation of the architectural competition, the architectural profession matured. We have already seen that community management[50] has become formalised and has grown into a profession and also 'the crowd' is being formalised, for instance, in regards labour rights (Felstiner, 2011). Therefore, Shirky's notion of 'organizing without organizations' seems mostly to prompt a (somewhat futile) discussion about what constitutes 'traditional' organisational structures. It was the methodological shortcoming of approaches or suggestions such as Shirky's, that prompted me to establish the notion of 'organisational technologies'.

As an analytical resource 'organisational technologies' has helped to structure and guide the answer to the research question. As seen above, it has been my concrete way of working 'between cases' as it has allowed me to bring together two phenomena that – at first glimpse – seems incomparable by focusing on what they do and how they do it with and to

[50] Below, I suggest distinguishing between *community* and *crowd* management.

organisation. 'Organisational technologies' is a methodological contribution that allows for examining how organisation is rendered (possible) and continuously stabilised as an effect of something that is not itself (an) organisation.

Contributions to practice

This dissertation contributes to practice by empirically examining crowdsourcing in the light of architectural competitions. Being able to describe in concrete terms what happens on the Innosite platform and how it happens is an important contribution, because part of the commission of the research project was to establish an overview for involved practitioners as wells as a contextualisation of what 'they were doing'.[51] The ambition with the articles on the Innosite platform was to unfold the practice that took place on the platform with help from a rather simple analytical-theoretical repertoire. With the article that draws on the Carlsberg City competition I also had the ambition to be highly empirical and unfold what happened in the dialogue competition.

Besides the elaborate empirical unfolding in the articles, I will extent some specific advice or implications. First, the distinction between 'crowd' and 'community' is interesting to pay attention to. As mentioned in Chapter 2, crowdsourcing and especially the open innovation paradigm has some strong relations to the open-source movement (Raymond, 2001), where online community members were collaborating to create an alternative operating system to the personal computer. After Howe's introduction of the digital organised crowd and crowdsourcing (Howe, 2006), discussions and confusion on the difference between a digitally organised crowd and an digitally organised community has emerged in both practice and academia (see, for instance, Bayus, 2013). As it seems reasonable that organisations will increasingly engage with actors organised digitally 'outside' the traditional boundaries of the organisation, it seems necessary to make a clear distinction between 'crowd' and 'community'. One viable way of making this distinction could be to follow Dobusch and Kapeller (2013) to suggest that a community (of digitally organised people) should refer to a collection of actors organised around a common purpose and that there is a certain 'self-organising' involved in, for instance, allocating tasks. A community can and does collaborate

[51] With practitioners I refer to and address both crowd members, operating team, design team, jury members, architects, client organisations, competition owners, community managers and competition advisors – in sum, more or less all actors involved

and communicate directly with each other and is characterised as a collective. By contrast, a crowd (of digitally organised people) implies a focus on the relationship between the central and the decentral regarding purpose and allocation of tasks, in the sense that the purpose – and the tasks related to the purpose – is communicated to the decentralised actors. In this sense, crowd members are more dispersed and atomised than community members and the primary function of a crowd is not to collaborate, even though collaboration can be afforded in a particular design-setup or on particular platform. However, I would like to suggest a nuancing of this distinction between a crowd and a community, which is the proximity to the (core of the) organisation. Here, it must be stressed that the core of organisation does not refer to a particular place or to a certain group (of leaders, managers or owners) and that proximity does not refer to a physical distance. I propose that a community is more in alignment ('close to') with the central purpose of the organisation than a crowd is, whereas crowd members put more focus on the tasks communicated to them. Using purpose and tasks as indicators of community and crowd, respectively, allows management or other decision-makers to know how to interact with – and what to expect from – differently organised groups. I will also argue that the concrete design of the platform will play an important role in whether and to which extent the people organised on it will display crowd or community behaviour. In continuation of this, I suggest that organisations should become more precise users of language: chiselling out a difference between a crowd and a community opens for the possibility that these two organisation-forms do different things to and with organisations. For instance, in relation to crowdsourcing, the manager's role could involve making sure that the centrally posed challenge is communicated, is understandable and is 'crowdsourceable'. This implies that this type of 'manager in the open' (Kornberger, 2016) must have an understanding of the particular crowd; how it works; what it can engage with; what the crowd's 'core competencies' is and so forth. As an empirical curiosity, it is interesting to note that while the community manager on Innosite began to choose more selectively which proposals should be presented for the jury, thereby increasingly influencing the process and the outcome(s), both the operating team and several central actors argued that the 'innovative vision' of the platform was declining. This seems to imply that the management role should not be underestimated.

This research project cannot answer how one can win crowdsourcing- and architectural competitions. However, it will extend a relevant advice to actors participating in such competitions, which is to take interest in how these competitions find the winners or 'how they are organised to create answers'. My research has shown that assessment criteria – as the part of the competition brief that officially states what matters in a given proposal – is only part of the story. Evidently, seasoned crowd members and architects have practical knowledge and intuition about how to participate in competitions, but as both new crowdsourcing platforms and architectural competitions are constantly developed, the future will likely involve new competition setups for both crowd members and architects. Finding out how competitions make winners and which roles are involved in making relevant decisions, will make it possible to act strategically according to such information. Especially in setups that involve different forms of dialogue and interaction it seems advisable to know who the decision-makers are and how they make their decisions.

Suggesting for future research

Below some concrete suggestions for future research are outlined. All of these are made apparent by the research project: some from the empirical setup and some from the analytical findings. Some of the suggestions build directly on the contributions put forth above whereas others are more suggestive.

As novel competition formats are continuing to enter the architectural world and the building industry at large (for instance, the 'interview competition setup' as mentioned in Chapter 2) as well as more broadly in society (for instance, how freelance workers are competing for jobs), more research on how such competitions work is highly relevant. Especially based on my research, where I have seen that the traditional understanding of fair competition is being challenged, research on such novel competition formats must continue. From the perspective of this research project, the introduction of different forms of dialogue in competitions should be subject to academic scrutiny. It would be relevant to examine in greater detail how asymmetrical knowledge between participants matter: what it results in regarding both (architectural) outcome and (process) legitimacy. Also, it would be interesting to examine in greater detail how the jury handles being part of several 'local knowledge spheres' or 'evaluation spaces' and what this results in. Regarding crowdsourcing, more research is needed to illuminate how both formal and informal decision-makers (i.e. community

manager and jury in my case) influence the crowd, how they work and what they upload. A concrete suggestion would be to examine this using quantitative data as digital platforms generates (traces of) practices, that could be used for such examinations.

Another potential future research area became apparent while doing my ethnographic work and being present in Danish Architecture Centre. Here, I witnessed how the introduction and establishment of the crowdsourcing platform in an organisational setting took place in practice. In introducing the platform, the management established an operating team, consisting most prominently of a project manager and a community manager. These roles where given to persons who had no experience with working with crowdsourcing and 'stand-alone' digital platforms. They were informed by management about the ambitions related to the platform and then they were asked to begin operating the platform. Evidently, much research – see for instance, Fayard, Gkeredakis and Levina (2016), Zuboff (1988), Barley (1986) and Plesner and Raviola (2016) – has examined how new (digital) tools enter organisational setups and how professions grow up around such tools, shaping and being shaped by them. However, as it cannot be expected that new (digital) tools are received and appropriated in the same way as tools before them, this must be recurrently addressed by research – especially in a situation where new digital tools constantly emerge and are introduced in and to organisations.

The last suggestion for future research address how a crowd is established and what the consequences of this might entail. Almost all research on crowdsourcing assumes a crowd, either by empirically examining a particular platform with an already existing and 'working' crowd or else as a conceptualisation derived from abstractions. In my ethnographic work, I witnessed how the crowd was assembled as a constant organisational achievement, growing from zero to 3500 members. It would be highly relevant to examine the crowd as a dynamic entity, focusing on 'what a crowd can do' through a longitudinal focus on the platform that 'hosts' the crowd. This would, for instance, add to the work made by Jeppesen and Lakhani (2010), when they ambition delineate what a crowd can and cannot do: examining the right conditions for crowdsourcing to work could include how a given crowd has been composed and 'come into existence'.

Outro

At the onset of this dissertation, I argued that the building industry is facing challenges related to innovativeness and efficiency. I argued that strategies for addressing these challenges involved open innovation and (re)thinking the architectural competition. Both crowdsourcing and dialogued-based architectural competitions can be seen as answers to these challenges. But are these technologies capable of addressing the challenges? I have shown that they are both capable of creating answers, but while they work to create answers by introducing different version of dialogue and communication, they also create new challenges, for instance introducing new facilitator roles, which challenge the traditional understanding of the (fair) competition. In crowdsourcing, the informal communication between participants and decision-makers makes it difficult to navigate and find a strategy that both considers demands for creating useful answers and sustains a sense of fairness. In dialogue-based architectural competitions, the formal dialogue constantly changes the solution or evaluation space as it prompts the participants to (actively) challenge the competition's conditions. In short, when crowdsourcing and architectural competitions are organised to create answers by involving communication and dialogue, some issues regarding innovativeness and efficiency are solved, while new regarding innovativeness and fairness and are installed.

CHAPTER 9 REFERENCES

Empirical material

Below observations and interviews as well as homepages referred to in the framework are listed.

Observations and interviews

13 December 2011: *1. PhD Job interview*
Jannie Bendsen, project manager and PhD, The Danish Architecture Centre
Mathilde Serup, Programme Director, The Danish Architecture Centre

15 December 2011: *2. PhD Job interview*
Jannie Bendsen, project manager and PhD, The Danish Architecture Centre
Mathilde Serup, Programme Director, The Danish Architecture Centre
Natalie Mossin, senior project manager, The Danish Architecture Centre and chief executive officer, The Danish Association of Architects

20 March 2012: *Innosite, Steering Committee Meeting*
Mathilde Serup, Innosite project owner, DAC
Nina Koch-Ørvad, Innosite project manager DAC
Mikkel Andreas Thomasson, Founder Smith Innovation
Lone Feifer, Programme Director, Velux
Lennie Clausen, Project Director, Realdania

8 February 2012: *Interview*:
Anna Bisgaard, Innosite community manager DAC

14 July 2014: *Open office conservation between*:
Nina Koch-Ørvad, Innosite project manager DAC
Anna Bisgaard, Innosite community manager DAC

5 December 2015: *Informal talk with an employee from Copenhagen Solution Lab*
From 2015 and onwards, the Innosite team shared office space with Copenhagen Solution Lab. This allowed me to listen to their talks and to have informal talks with them during lunch and coffee breaks.

Homepages

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Innocentive, 2017
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Innosite, 2017
https://www.innosite.dk/start.php
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Innosite, 2017a
https://www.innosite.dk/info.php?ID=24
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Starbucks, 2017
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Appendixes

Appendix A

Below are the search words that I combined with 'crowdsourcing' to inform my literature review, i.e. 'Crowdsourcing AND Affordance':

Affordance
Architecture
Architectural
"Architectural work"
"Architectural competition"
Case-study
"Community Manager"
Competition
Context
Coordination
"Core Task"
Decision-Making
"Division of labour"
"Digital Materiality"
Ethnography
Innovation
Managing / Mangement
Netnography
Organisation / Organization
"Organisation / Organization technology"
Organisational / Organizational
"Organisational / Organizational technology"
Organising / Organizing
"Organising / Organizing technology"
Platform
"Platform Design"
Purpose
Sociomaterial
Sociomateriality
Tournament-based

Appendix B

Below a list of journals with 5 or more articles concerning 'crowdsourcing'.

Journal	Articles on 'crowdsourcing'
IEEE (conglomerate of journals)	215
ACM (conglomerate of journals)	48
PLoS ONE (conglomerate of journals)	36
Nature (conglomerate of journals)	21
Journal of Medical Internet Research	18
Business Horizons	16
International Journal of Human Computer Studies	16
Computers in Human Behavior	15
Computer Networks	14
Expert Systems with Applications	14
Behavior Research Methods	13
Lecture Notes in Computer Science	13
Computer	12
Decision Support Systems	12
Journal of the Association for Information Science and Technology	12
Journal of Machine Learning Research	11
Scientific Reports	11
Sensors	11
Language Resources and Evaluation	10
California Management Review	9
Transportation Research Record	9
Information Communication and Society	8
Information Retrieval	8
Information Systems Research	8
ISPRS International Journal of Geo-Information	8
Survey Review	8
Technological Forecasting and Social Change	8
International Journal of Innovation Management	7
Journal of the American Medical Informatics Association	7
Multimedia Tools and Applications	7
Cartography and Geographic Information Science	6
First Monday	6
Information Systems	6
Journal of Biomedical Informatics	6
Journal of Systems and Software	6
Pervasive and Mobile Computing	6
Policy and Internet	6
Computer Supported Cooperative Work: CSCW	5
Journal of Information Science	5
Management Science	5
Organization	5

Scopus accessed 08 June 2017

Appendix C

Below is the list of identified key journals regarding 'architectural competitions'.

Journal	Articles on architectural competition / competitions
Nordic journal of architectural research	18 / 24
Building Research and Information	11 / 9
Architectural Theory Review	8 / 7
Form Akademisk – Research Journal of Design and Design Education	4 / 8
Enquiry: A journal for Architectural Research	2 / 2
Journal of Design Research	2 / 2
Scandinavian Journal of Management	n/a search function

Appendix D

Below are the search words that I combined with 'crowdsourcing' to inform my literature review, i.e. 'Architectural Competition AND Affordance':

Affordance
Case-study
Context
Coordination
"Core Task"
Decision-Making
Design
"Division of labour"
"Digital Materiality"
Ethnography
Innovation
Managing / Management
Materiality
Organisation / Organization
"Organisation / Organization technology"
Organisational / Organizational
"Organisational / Organizational technology"
Organising / Organizing
"Organising / Organizing technology"
Platform
Purpose
Sociomaterial / Sociomateriality

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