1 Introduction

Background

The construction industry is known for its waste of money and materials, low innovative capacities, and low productivity (*Cox and Thompson, 1997*; *Vrijhoef, 2011*). One reason for that inefficiency is the antagonistic relationship between clients and contractors (*Tazelaar and Snijder, 2010*; *Vrijhoef, 2011*). Clients often use competitive procurement and selection procedures to select contractors (*Boukendour and Hughes, 2014*). These procedures are expensive and time-consuming both for the contractor and the client. The contractor does not necessarily earn back this investment, since there is a chance that he will not be given the assignment. Therefore, sometimes contractors feel a need to bid unrealistically low, sometimes even below the cost price. Often throughout the realization of the project, failures accumulate and may accordingly result in a heavier workload, higher costs, longer project duration and lower quality.

For decades, attention has been given to supply chain partnering (SCP) in the construction industry, as a promising strategy to decrease this waste of time and money and increase quality (*Boukendour and Hughus, 2014*; *Bygballe, 2010*; *Eriksson, 2015*; *Hong et al., 2012*; *Vrijhoef, 2011*). Lessons learned about SCP from other industries cannot be transferred to the construction industry, since the construction industry is, unlike most other industries, characterized as informal, fragmented and project based (*Vrijhoef, 2011*). There is no unified agreement on what SCP exactly incorporates (*Bresnen and Marshall, 2000a*; *Bygballe, 2010*). In practice, the word SCP is used interchangeably with its synonyms, such as supply chain collaboration, partnering, construction partnering, and supply chain integration. However, an often-used definition is "*A long-term commitment by two or more organizations for the purpose of achieving specific business objectives by maximizing the effectiveness of each participant's resources. This requires changing traditional relationships to a shared culture without regard to organization boundaries. The relationship is based on trust, dedication to common goals, and an understanding of each other's individual expectations and values. Expected benefits include diminishing deficiency and promoting cost-effectiveness, increased opportunity for innovation, and the continuous improvement of quality products and services''* (*CII,1991, p.iv*).

The attention that practitioners as well as scholars have paid to this topic, indicate a general belief in the added value of SCP. Despite this level of attention and the strength of this general belief, *Smyth (2010)* and *Fernie and Tennant (2013)* both argue that the adoption of SCP in the British construction industry is low. According to *Gottlieb and Haugbølle (2013)* the effort that has been put to apply SCP in the Danish construction industry only lived up to the expectations to some extent. It is questionable whether and to what amount SCP has been adopted in other countries.

Many studies about SCP in the construction industry are published (*Bygballe, 2010*; *Hong et al., 2012*). A literature review that was conducted as part of this PhD-process (section 2) shows that between 2010 and 2015 176 peer reviewed articles about this topic were published. Various aspects of SCP have been studied, such as different forms of contracts, risk allocation, and planning issues. Moreover, the social aspects of SCP have been addressed, such as increasing mutual trust, leadership and communication issues.

Assumptions about the nature of construction partnering research circulate. Examples of such assumptions are that construction partnering research is abstracted from daily work practice, prescriptive, and focused on technical managerial aspects of SCP (*Bresnen, 2010*). According to *Phua (2013)* the individual level of analysis is underexposed. That means that individual experiences have been averaged away in an attempt to develop a general theory (section 2 studies the nature of qualitative construction partnering research more closely).

In this plethora of aspects and perspectives of SCP that have been addressed, one understanding of SCP that seems to gain popularity, is that it should be considered to be a fluid concept (*Gottlieb and Haugbølle, 2013*) or emergent practice (e.g. *Bresnen and Marshall, 2002*; *Bresnen, 2007*; *Bresnen, 2009*). The word 'emergence' in an organizational context is rooted in, for example, *Mintzberg et al. (1997)* who distinguishes between deliberated and 'emergent strategies.' Whereas deliberated strategies are deliberately designed and implemented by managers, an emergent strategy is formed in daily practice where professionals together in many daily formal and informal interactions form all kinds of patterns and routines. Therefore, an emergent strategy is dynamic, fluid and is highly time and place dependent. Whereas a deliberated strategy points towards the future and focuses on what should be done, an emergent strategy looks back to the past and focuses on what already is done.

Stacey (2011) calls this ongoing process of interaction that forms the strategy as it is 'complex responsive processes'. Because an organization is shaped through these ongoing complex responsive processes, plans, ideas, models, etc. that are designed to control the ongoing complex responsive processes would be a myth and only

provide an illusion of control. *Stacey (2011)* argues that although managers may try to deliberately design and implement a strategy, that deliberately designed strategy will never be applied one-on-one in daily work practice, no matter how well considered the strategy is designed. *Stacey (2011)* argues that all plans, designs, step-by-step plans, blueprints, etc. are just one of many 'gestures' that people at work floors receive. These plans only partially influence complex responsive processes in which the emergent strategy is formed. The dominant ways of thinking about organizations are all variations on a triangle-shaped model that represents strategic, tactic and operational level. This triangle-shaped model represents a false image of how organizations come about *(Stacey, 2011)*.

SCP as an emergent practice means that it is not considered a blue print, but that the new way of collaboration is formed in many daily work floor interactions between professionals that constantly negotiate and give shape to their new daily work floor routines. The management strategy is just one of many gestures that may influence new ways of collaborating with each other. All professionals with their own frames of reference, interests, history, competences and personal character constantly negotiate and together create the patterns as they are. Therefore, studying SCP as an emergent process means that these ongoing complex responsive processes need to be studied at an individual level of analysis to not average away the individual experiences. Studies that dig deeper in those work floor practices of SCP in construction industry do not exist yet. There is no insight in what people actually do in their daily work practice and how they form a strategy such as SCP. Without having this insight, it is impossible to intervene in an efficient and effective way, nor for the managers, neither for other professionals in the field. Focusing on daily work floor experiences of professionals in the field, may lead to fresh insights as to how people in the field contribute to the situation as it is and how in the future, they can intervene more effectively with the purpose for smoother collaboration, decrease waste of time and money and increase quality.

Construction sector

The construction industry is a large industry. The industry covers civil works as well as buildings and within both branches many subindustries may be distinguished. It is very likely that how people collaborate in one country may vary significantly from another. In this research in particular, where individual local and context related experiences of collaboration in the supply chain are studied, results of this research cannot be transposed just like that to another situation in this industry. **Figure 1.1** shows the position of this study within the construction industry. This research focusses on Dutch social housing associations. The Netherlands was chosen for convenience reasons. Social housing associations have a special position within the

Dutch construction industry. Owning approximately a third of the total housing stock in the Netherlands, they are one of the biggest clients in the Netherlands. Being such a large party in the construction supply chain, means that they are likely to dominate the sector. At the same time, social housing associations must cut down expenses. Therefore, many managers in the field of social housing are interested in implementing an SCP-strategy. In some construction projects SCP is more likely to be adopted than in others. Social housing renovation projects are more repetitive in nature than other engineering projects, since social housing associations own many similar objects that need to be renovated. The actors involved in repetitive projects are also mostly locally oriented, since the scale of the projects do not specifically demand non-local or even international partners. Since the objects that need to be renovated are similar in nature, the work that needs to be done is also similar. Most work covers removing asbestos, isolating walls and roof, and replacing or painting window frames. Because of the likelihood of this subsector to adopt SCP on a wider scale, we decided to focus our study on this subsector of the construction industry. In studying work floor experiences, we are especially interested in the experiences of the project leaders who work for the Dutch social housing associations. Project leaders are considered as important in translating the abstract strategy of SCP into daily actions.

FIGURE 1.1 Different branches in the construction industry and focus of this research

Problem statement, research objective, and research questions

Problem definition

The problem is that not enough attention has been paid to what happens at the work floor level when project leaders try to apply principles of supply chain partnering. However, gaining this insight is necessary, because supply chain partnering is formed by ongoing processes of interactions in daily work practice. In order to improve performances, and to intervene more effectively, gaining greater insight into work floor experiences of project leaders who try to apply principles of SCP is necessary.

Research target

This research aims to describe work floor experiences of project leaders who work for Dutch housing association and who attempt to apply principles of SCP.

Research question

To reach this target the following question will be answered:

What are work floor experiences of project leaders that work for Dutch housing associations who try to apply principles of SCP?

We deliberately formulated only one broad open research question, because the work floor experiences were studied holistically. By not formulating specified sub-questions beforehand, we created the right circumstances for themes to emerge inductively. As we collected and described the work floor experiences, themes emerged inductively. The following themes emerged and are addressed in the conclusions in **section 7**:

— The importance of the intra-organizational supply chain in effective collaboration;

— Leadership;

— Inconsistent use of values that are associated with the concept of SCP;

— Power dynamics and ethics.

This study relies on the assumption that current literature about construction partnering is abstracted from daily work practice. To justify this assumption, a literature review was conducted and that answers the following sub-question:

What is the nature of qualitative construction partnering research?

§ 1.3   Research approach

According to *Gubba and Lincoln (1994)* the three pillars that define a research paradigm are ontology, epistemology and methodology. It is important to explicate the researcher's position in these pillars, because procedural and theoretical choices and considerations are made based on this position. Terminology about ontology, epistemology and methodology can be interpreted in multiple correct ways. That is why this section will elaborate on the three pillars.

Ontologically, this research assumes that everything that is perceived as reality is socially constructed. That means that any notion of reality is both temporary and context dependent. Reality is constructed in the experience of individuals and therefore multiple correct constructions of reality can exist. Epistemologically, this research assumes that it is impossible to know the socially constructed reality in a neutral and objective manner. All human beings, including scholars, can know socially constructed reality only from their own non-neutral frame of reference. Nobody can stand outside their personal frame of reference. Therefore, every notion of reality that people have is non-objective and restricted by the boundaries of language. That means that this research does not aim to present 'the one and only truth' (*Feilzer, 2009*). Instead, this research presents a researcher's interpretation of a social construct.

Methodologically, this research is based on a literature review, three case studies (See **table 6.1** for an overview of facts and figures about the three case studies), and an overarching study in which the cases are compared to each other. Although the research approach in each case differs slightly, in each case study narrative techniques are used. The main method to gather data was conducting open, semi-structured interviews in which the participants were asked for their experiences with SCP and the context that enabled or restrained them for applying SCP. The main method to analyze data in each case study was constructing a narrative about and with the participants in the case study. For each case, study narratives were created and validated by presenting the narrative to the participants. The exact approach varies slightly in each case study.

Details about the exact approach in each case study are described in **section 3**, **section 4**, and **section 5** of this thesis. An overview of the changes in gathering and analyzing data in each case study is described in **section 6**.

The case studies were brought together in two ways: on the one hand, predetermined dimensions were used to compare the data. The dimensions were provided by *Eriksson (2015)* and are strength, scope, duration and depth. These dimensions were also used to evaluate the utilization of the dimensions. The results of this comparison are described in **section 6**. On the other hand, while conducting the cases, themes emerged inductively. The results of the inductive synthesis of the cases are described in **section 7**.

§ 1.4 Visibility, comprehensibility and acceptability as alternatives for validity, reliability and generalizability

Validity, reliability and generalizability in interpretative research have a different meaning than in positivistic research. According to *Golofshani (2003)* validity 'determines whether the research measures that which was intended to measure or how truthful the research results are' and reliability refers 'to the extent to which results are consistent over time'. Generalizability determines the extent to which the results of a sample represent the total population. Concerning validity, reliability and generalizability, positivistic researchers rely on statistical procedures that can calculate, for example, to what amount the sample results represent the total population.

Interpretative researchers cannot rely on those statistical procedures and should find alternative ways to increase the credibility of their research. The reason that interpretative research should find alternatives for validity, reliability and generalizability, is that differences in purpose of both types of research makes these notions irrelevant (*Golofshani, 2003*). Interpretative research is not focused on trying to get to know 'the one and only truth' of a phenomenon (in this case the phenomenon of interest is SCP as an emergent practice). The phenomenon itself is socially constructed and highly time and place dependent and can be known only from human non-neutral frames of reference. Therefore, the purpose is not to study a sample and extend the results to the wider population. After all, the phenomenon itself is time- and place dependent, and the way to study it depends on the frame of reference of the researcher. There is already an acceptance that repeating the study will result in different outcomes, because the phenomenon itself changes, as well as the researchers' frame of reference.

This line of reasoning sheds a different light on relevance of validity, reliability and generalizability. That does not mean that 'anything goes'. Of course, interpretative studies need criteria to guarantee quality of their research and convince readers that the research is worth to spend time on (*Golofshani, 2003*). Various authors provide alternative criteria for guaranteeing quality of interpretative research. For example, *Guba and Lincoln (1985)* propose Credibility, Neutrality or Confirmability, Consistency or Dependability and Applicability or Transferability as criteria. *Maxwell (1992)* proposes descriptive, interpretative, theoretic, evaluative validity and generalizability. *Akkerman et al. (2008)* proposes visibility, comprehensibility and acceptability to check quality of qualitative research.

This proposal by *Akkerman et al. (2008)* is rooted in the idea that every qualitative researcher goes through a process of reducing and interpreting raw data to come to conclusions. According to *Akkerman et al. (2008)* researchers should make that process visible, comprehensive and acceptable. That means that in describing the research in, for example, peer-reviewed articles attention should be paid to describe this process in a transparent way and that arguments to support choices should be convincing, following the standards of the discourse. Several actions are undertaken to guarantee visibility, comprehensibility and acceptability of this research. Besides these actions, for each case study specific choices are made which are described in **section 3**, **section 4** and **section 5** of this thesis.

The first action to increase visibility and comprehensibility of the process of reducing and interpreting raw data was to pay more attention to describe the process of analyzing data in each case study. **Section 2** of this thesis shows that peer-reviewed qualitative construction partnering research pays relatively little attention to describe this process. As a rule of thumb, an equal amount of words should be spent on describing the process of gathering data and on describing the process on analyzing data.

The second action to increase acceptability of this research, was to publish the core of this research (**section 2**, **section 3**, **section 4**) as peer-reviewed articles in academic journals (**section 5** is submitted and accepted as a conference paper for the ENHR-conference in Tirana in 2017). These sections have been reviewed by international peers. This guarantees that the research meets international academic standards.

The third action to increase acceptability of interpretation was to present the constructed narratives to the participants of the research. They were invited to reject, confirm or nuance the narrative where possible. The researcher was surprised by the positive responses to the narratives by the participants, although the narratives were not always in their favor.

The fourth action deviates a little from *Akkerman's et al. (2008)* proposal and refers to generalizability. The literature review in **section 2** shows that in current qualitative construction partnering research, results are generalized in a somewhat opaque manner. Moreover, internal validity (to what amount does the sample represent the total population) gets less attention. We consciously chose a small subsector (Dutch housing), because we assume that SCP as an emergent practice is highly time- and place-dependent and therefore cannot be copied one-on-one to other subsectors.

§ 1.5 Academic relevance

This research contributes to the academic discourse about construction partnering in a theoretical and methodological way. Concerning theoretic contribution, the academic discourse about construction partnering provides little insight in what happens at the work floor when professionals attempt to apply principles of SCP. The level of analysis is mostly at case level or higher (which is confirmed in the literature review in **section 2** of this thesis), and therefore important individual details have been averaged away. That is a missed opportunity to gain a deeper understanding of how SCP is formed and expressed in daily work life and why it is expressed in this way.

Methodologically, this research is based on assumptions about the nature of qualitative construction partnering research. Therefore, firstly, these assumptions were studied in a literature review (**section 2** of this thesis). This literature review resulted in various methodological gaps in qualitative construction partnering research, which makes this study academically relevant. Secondly, this research employed several different narrative research techniques, which is rare in current construction partnering research. Employing narrative techniques does not only provide a new perspective on construction SCP, but also provides new perspectives on conducting research in this academic field.

§ 1.6 Practical relevance

According to *Stacey (2011)* decades of organizational research have not resulted in a 'body of scientifically respectable evidence that the approaches, tools and techniques put forward in most textbooks do actually produce successes'. According to *Stacey (2011)*, currently, commercial organizations succeed and fail as much as they did decades ago, and they succeed and fail without any person who can predict why or how to control success or to avoid failure. Therefore, *Stacey (2011)* questions the adequacy of current organizational research, that is based on the dominant triangle shaped way of looking at organizations. The dominant system is based on prediction and controlling of organizations, by using measurable targets, planning, and implementation strategies (*Stacey, 2011*). This is a false image and most interventions are based on this false image. That is why *Stacey (2011)* calls these managerial interventions 'myths' and maintains that they only provide 'an illusion of control'.

This research provides a different way of thinking about organizations, and pays more attention to what happens at work floor level, without trying to quantify nor qualify. The purpose is to become aware of what we are doing. The expectation is, that this increase of awareness will lead to alternative interventions.

§ 1.7 Readers guide

This thesis includes a literature review about the nature of construction partnering (**section 2**), three case studies (**section 3**, **section 4**, and **section 5**), a comparison of the three cases (**section 6**) and it ends with a conclusion (**section 7**).

Section 2 evaluates the nature of qualitative construction partnering research. The purpose of doing this was to evaluate assumptions about construction partnering research that circulate. For example, it is said that it is stylized, abstract and that the individual level of analysis is underexposed. This research relies on such assumptions. Therefore, it is important to evaluate whether the assumptions can be justified.

Section 3, **section 4** and **section 5** provide peer-reviewed articles about the first, second and third case study. The cases are all about work floor experiences of project leaders who work for Dutch housing associations and try to implement principles of SCP. **Table 6.1** shows an overview of facts and figures about the three cases.

In **section 3**, a project leader of a department of renovations and maintenance in a Dutch housing association together with the researcher tried to contribute to the implementation of SCP. The results show that stakeholders could not come to shared understanding of strategic needs. It also shows that that pattern influences and was influenced by social aspects, such as leadership, and trust. The case stresses the importance of the intra-organizational supply chain.

Section 4 focuses on multiple project leaders working for the department of renovations and maintenance in a Dutch housing association. This study shows how project leaders perceive relationships in the internal supply chain and the strategies that they develop to cope with these intra-organizational relationships. Furthermore, it is argued that the key values of SCP, as understood by the project leaders, such as sharing responsibilities and addressing feedback towards each other openly, are not applied in intra-organizational relationships.

Section 5 deals with the experiences of a group of professionals from a Dutch housing association and a Dutch contractor that consider themselves a successful supply chain. This case shows that the perceived success is based on repetition in collaboration, but the contractor in this self-perceived successful supply chain still had to go through procurement and selection procedures. Furthermore, the collaboration is focused on the project level and does not seem to have direct effects on the rest of the client organization. Continuation of the self-perceived successful collaboration is uncertain. It may also be observed that key values were used inconsistently, thereby giving rise to ethical questions as to why some individuals or groups are being treated differently from others.

In **section 6**, the cases have been compared to each other. The comparison has been based on four dimensions of strength, scope, duration and depth that were provided by *Eriksson (2015)*. Finally, **section 7** incorporates a number of conclusions. In this section, the main research question is answered, and the themes that emerged inductively throughout conducting the cases are also evaluated. The conclusion does not only provide a reflection on this research, but also contains academic and practical recommendations.

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