

# CHALMERS



## Strategic partnering relationships in the Swedish construction industry

- Overview and case studies on structures for learning

*Master of Science Thesis in the Master's Programme Design and Construction  
Project Management*

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Master's Thesis E2014:069



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## ABSTRACT

Collaborative approaches to deliver construction projects are considered to improve project outcomes in terms of time and cost performance as well as to influence the number of conflicts and overall satisfaction positively. Strategic partnering implies a collaborative and long-term relationship between the client and the construction supply chain, often encompassing several sub-projects. Learning and continuous improvement are central concepts. This is since the long-term perspective provides a unique opportunity to continuously develop the relationship as well as the working procedures over time. In the last decade, strategic partnering has become more common within the Swedish construction industry. However, there is little information about the extent of this increase. Furthermore, there is a need to better understand how these relationships are managed in order to support efficient structures for learning. Accordingly, two research questions were defined, one focusing on mapping the use of strategic partnering and the other on how such relationships are managed. Hence, this study will provide a better understanding as to what extent and in which situations strategic partnerships are being used and how they are and should be managed in order to support efficient structures for learning and, consequently, optimize the value for money. The research questions were answered through a literature review, an inventory of on-going strategic partnerships and five case studies. In total, 17 semi-structured interviews have been held with employees from client and contractor organizations involved in strategic partnerships. The results indicate that there exist about 31 formal on-going strategic partnering relationships in the Swedish construction industry, most of them within the public sector. It also indicates that learning and knowledge development are receiving more attention in the industry, based on the five case studies and compared to earlier research on the subject. A number of more or less formalized structures for learning, mainly through experience feedback and knowledge transfer, have been identified. Within the alliances, such structures are often highly dependent on individuals, and rely on personal interactions and meetings. Within the contractor organisations, learning between partnerships was found to take place through meetings as well as through documentation of experiences in databases. Based on literature and the empirical results, we conclude that the use of a dedicated alliance function and dedication of time and money for reflection seem to be what could most efficiently increase the capacity for knowledge development, and, in turn, enable continuous improvement.

Key words: Strategic partnering, organizational learning, alliance learning, continuous improvement

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Malin Andersson and Ilkim Görgulu

## Contents

ABSTRACT	I
ACKNOWLEDGEMENTS	II
CONTENTS	III
NOTATIONS	V
<b>1. INTRODUCTION</b>	<b>1</b>
1.1 BACKGROUND	1
1.2 PURPOSE & RESEARCH QUESTIONS	2
1.3 SCOPE & LIMITATIONS	2
<b>2. THE BACKGROUND OF STRATEGIC PARTNERING</b>	<b>3</b>
2.1 THE TRADITIONAL CONSTRUCTION PROCESS	3
2.2 PUBLIC PROCUREMENT	4
2.3 COLLABORATIVE RELATIONSHIPS	4
2.3.1 PARTNERING	5
2.3.2 STRATEGIC PARTNERING	5
<b>3. THEORETICAL FRAMEWORK</b>	<b>7</b>
3.1 HOW DO ORGANIZATIONS LEARN?	7
3.1.1 LEARNING IN A CONSTRUCTION CONTEXT	7
3.1.2 KNOWLEDGE MANAGEMENT	7
3.1.3 CONTINUOUS IMPROVEMENTS	8
3.2 LEARNING IN ALLIANCES	9
3.3 ALLIANCE LEARNING IN A CONSTRUCTION CONTEXT	10
3.4 THEORETICAL SUMMARY AND REFINED RESEARCH QUESTIONS	11
<b>4. METHODOLOGY</b>	<b>12</b>
4.1 OVERVIEW OF THE STUDY	12
4.2 DATA COLLECTION	12
4.2.1 LITERATURE REVIEW	12
4.2.2 INVENTORY	13
4.2.3 CASE STUDIES	14
<b>5. INVENTORY OF STRATEGIC PARTNERING RELATIONSHIPS</b>	<b>17</b>
5.1 IDENTIFIED RELATIONSHIPS	17
5.2 GENERAL PERCEPTIONS OF STRATEGIC PARTNERING	17
<b>6. CASE STUDIES</b>	<b>22</b>
6.1 PROCUREMENT AND CONTRACTS	22
6.2 PARTNERSHIPS WITH SKANSKA	22
6.2.1 EIDAR IN TROLLHÄTTAN	22
6.2.2 ALINGSÅSHEM	24
6.2.3 ÖREBROBOSTÄDER	26
6.2.4 STRUCTURES FOR PARTNERING DEVELOPMENT WITHIN SKANSKA	28
6.2.5 OTHER SYSTEMS FOR KNOWLEDGE SHARING WITHIN SKANSKA	28
6.3 THE PARTNERSHIP WITH NCC	29
6.3.1 EARLIER STRATEGIC PARTNERING EXPERIENCES WITHIN NCC	29
6.3.2 VARBERGS FASTIGHETER	30

6.3.3 SEGMENT PARTNERING IN NCC	31
6.3.4 DATABASES AND INTRANET	32
<b>6.4 PARTNERSHIP WITH BYGGDIALOG</b>	<b>32</b>
6.4.1 SÄFFLEBOSTÄDER	32
6.4.2 PARTNERING DEVELOPMENT WITHIN BYGGDIALOG	34
<b>7. DISCUSSION</b>	<b>35</b>
<b>7.1 STRATEGIC PARTNERING RELATIONSHIPS WITHIN SWEDISH CONSTRUCTION INDUSTRY</b>	<b>35</b>
<b>7.2 LEARNING IN STRATEGIC PARTNERING</b>	<b>36</b>
7.2.1 INTER-ORGANIZATIONAL LEARNING	36
7.2.2 INTRA-ORGANIZATIONAL LEARNING	37
7.2.3 GENERAL PERCEPTIONS	38
<b>8. CONCLUSIONS</b>	<b>40</b>
<b>8.1 STRATEGIC PARTNERING AND STRUCTURES FOR LEARNING</b>	<b>40</b>
<b>8.2 MANAGERIAL RECOMMENDATIONS</b>	<b>41</b>
<b>REFERENCES</b>	<b>42</b>
<b>APPENDIX</b>	<b>46</b>
<b>A. KARTLÄGGNING AV PÅGÅENDE STRATEGISKA PARTNERINGRELATIONER I DEN SVENSKA BYGGSEKTORN</b>	<b>46</b>
<b>B. INTERVJUFRÅGOR TILL BESTÄLLAR-ORGANISATIONER</b>	<b>58</b>
<b>C. INTERVJUFRÅGOR TILL ENTREPRENADFÖRETAGEN</b>	<b>60</b>

## GLOSSARY

Tendering documents	Förfrågningsunderlag
Tender documents	Anbud
Selection criterion	Urvalsparameter
Framework agreement	Ramavtal
PPA	LOU
Sheltered housing	Trygghetsboende
Retirement home	Äldreboende
Senior housing	Seniorboende

# 1. INTRODUCTION

*This introductory chapter of the thesis aims to present the background of the study. Problem definition, research questions, scope and limitations are further described.*

## 1.1 Background

During the last few decades, forming alliances and collaborative relationships has become essential for companies in a broad range of industries in order to stay competitive in fast-changing global markets (Doz & Hamel, 1998). Within the construction industry, experience in a number of EU member states indicates that companies engaged in projects with a collaborative approach achieve better outcomes than those working under conventional arrangements (Rigby *et al.*, 2009). Partnering is one such collaborative approach, which was introduced in a construction context in the 1980s due to a number of frequently occurring problems related to the traditional procurement route. The construction industry has for a long time been considered as conservative (Cheng & Li, 2002), having fragmented and adversarial relationships, and poor project performance (Love *et al.*, 2002). Since the 1960s, the UK construction industry has received criticism for being fragmented and having a large number of disputes (Bower, 2010), while in Sweden, anti-competitive behavior has been identified as a major problem (Bygghandlingarna, 2002). In both countries, these issues have been accompanied by reduced productivity, poor quality, and increased costs. Consequently, new and innovative approaches to deliver construction projects were requested. Initiatives such as government policies, reports investigating the industry (Latham, 1994; Egan, 1998) and a member organization for the construction industry, *Constructing Excellence*<sup>1</sup>, acting as a change agent, have pushed UK construction industry towards more collaborative and integrated contracting models, especially in the public sector. In Sweden, the use of partnering within the construction industry has increased widely during the last 10-15 years despite that there have been no government initiatives to promote collaborative delivery approaches (Kadefors, Thomassen, & Nordal Jorgensen, 2013). Furthermore, the concept of partnering has expanded into involving not only single projects but consecutive projects undertaken by the same project delivery team, enabling benefits derived from a repetitive processes and experience feedback. This long-term, collaborative approach to deliver projects is usually referred to as strategic partnering.

Research concerning long-term, collaborative relationships, such as strategic partnering, generally agrees on the great importance of learning and continuous improvements, both in the general literature (Inkpen, 1998) as well as in literature dedicated to the construction industry (Holt, Love, & Li, 2000). However, research on strategic partnering in Sweden is rather limited, particularly concerning structures for learning. Although anecdotal information suggests that strategic partnering has become more common within the Swedish construction industry in recent years, there is no overview of the current situation.

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<sup>1</sup> A number of cross-industry bodies were united in 2003 as Constructing Excellence in order to influence and improve the built environmental sector.  
<http://www.constructingexcellence.org.uk>

## 1.2 Purpose & research questions

The aim of the thesis is to contribute to the research field within strategic partnering in Sweden, with focus on its structures for learning and continuous improvements. This study will provide a better understanding of to what extent and in which situations these strategic partnering relationships are being used and how they are and should be managed in order to support efficient structures for learning and, hence, optimize the value for money. Current alliance management processes will be investigated, on the relationship level as well as on the company-level. The following research questions will be answered:

- RQ 1      To what extent and in which situations are strategic partnering relationships used within the Swedish construction industry?
  
- RQ 2      How are strategic partnering relationships within the Swedish construction industry currently managed in order to enable efficient structures for learning and continuous improvements?

## 1.3 Scope & limitations

The research questions will be answered through a literature review, an inventory of on-going strategic partnering relationships within the Swedish construction industry, and five case studies. Initially, partnering in general as well as project partnering need to be explained in order to gain a broader understanding of strategic partnering. Since there is no established definition of strategic partnering, the authors set up two criteria to be used as a basis for performing the inventory. Furthermore, the inventory only concerns the area of building construction; collaborative contracting within the civil works sector has been excluded. Furthermore, in consideration of the time frame, five of the identified relationships have been selected for case studies, which investigate alliance management processes that enable efficient learning.

## 2. THE BACKGROUND OF STRATEGIC PARTNERING

*This chapter aims to give some background information of strategic partnering in order provide a foundation for answering the research questions. It explains the traditional construction process and the regulation of public procurement, followed by a description of partnering and its various forms. Finally, some experiences of strategic partnering within the UK and Swedish construction industries are presented.*

### 2.1 The traditional construction process

There are mainly two organizational structures for organizing a construction project: the traditional and the design-build contract. The organizational structure defines communication and contractual links between the organizations (Bower, 2010). In a traditional process the various actors are involved at different stages. In the beginning, the client develops a project brief that states current objectives and requirements. Thereafter, a design team is consulted to produce the outline design, followed by detailed design and drawings, specifications, and other tendering documents. The selection criterion is either the lowest price or the economically most advantageous tender, where the latter is accompanied with a number of hard and soft requirements. Based on these criteria, which are stated in the tendering documents, contractors submit tenders on the project, and the one that best fulfills the criteria are awarded the contract. Hereafter follows the construction phase, succeeded by the handing over of the finished building, and finally the maintenance phase. However, due to the lack of overlap between various parties, this approach has drawbacks such as being time consuming, preventing early involvement of the contractor and limited flexibility. In the second approach, design-build contract, the client defines the requirements in functional terms based on the brief, and one contractor is responsible for the design development and construction. This approach is normally used for more straightforward buildings.

Furthermore, there are two main types of payment principles: fixed price or cost-reimbursable (Bower, 2010). Fixed price implies a total tender sum requested from the contractor in order to execute the work, which includes a percentage covering costs for administration, risk, and profit. In a traditional project, lowest price is generally the main criterion for selection. However, when the project is uncertain or quality is in focus rather than the price, a cost-reimbursable principle is more often preferred. The contractor is reimbursed its verified costs, such as material, labor, and subcontractors while their profit is either a percentage of a target cost or a fixed price. However, a combination of these two is often being used, involving both a fixed and a reimbursable part.

Much of the criticism the construction industry received during the last decades concerned its adversarial and self-seeking relationships (Kadefors, 2004). Particularly the traditional construction process in combination with a fixed price contract is frequently a source of conflict. This is since the additions and alterations, derived from errors in drawings or unforeseen events, not are included in the agreed price, nor are they subject to competitive tendering. When a contractor takes advantage of such situations by overpricing the cost in order to improve its own outcome, it is referred to as moral hazard (Bower, 2010). However, Kadefors (2004) found that clients might evoke such behavior by being controlling and suspicious. This relationship

counteracts the development of mutual trust, that otherwise could have led to an improved project performance.

## 2.2 Public procurement

When the contracting authority is a public organization, such as a municipality, contracts concerning purchase of goods and services need to be procured according to The Swedish Public Procurement Act, (PPA), SFS (2007:1091)<sup>2</sup>, which is based on EU directives 2004/18/EG (Kammarkollegiet, 2014). The act applies when the estimated value of a contract is equal or greater than a certain threshold, which in 2014 is set to 45 256 666 Swedish crowns, excluded VAT, for construction contracts (Kammarkollegiet, 2014). This estimated value involves possible subprojects during the entire contract duration. The objectives of the act are to eliminate trade barriers within the European Union, promote competition in order to use the public fund in the best way possible, and to give suppliers the opportunity to compete on equal terms (Kammarkollegiet, 2014). Basic principles that further apply to public procurement are non-discrimination, equal treatment, mutual recognition, proportionality and openness. Furthermore, there are a number of different procedures available for public procurement, which set the limits for of who might tender for the project. An open procedure implies that anyone might submit tenders for a project, while a selective procedure implies a two-step process where the client firstly must approve a request from the contractor to submit tender.

A contracting authority might procure one or more suppliers for a framework agreement. Such an agreement implies the establishment of conditions for a number of subsequent contract assignments during a certain period of time. This time period is limited to four years according to PPA, but might be subject to prolongation under certain conditions such as major projects or large investments (Kammarkollegiet, 2014). Furthermore, there are two ways of assigning subcontracts within a framework agreement. In the case when all terms are settled in the framework agreement, the procured suppliers are put in an order of priority based on their tenders. Each subproject is awarded to the supplier with the highest rank that is willing and able to accept it. In the second case, a framework agreement is settled but not all terms are initially given. A supplier will then be awarded the contract through renewed competition during a second tender phase with complementary specification for each subproject.

## 2.3 Collaborative relationships

There are various denominations for when a client collaboratively engages the project delivery team. In literature related to the construction industry, expressions such as *relationship based procurement* (Walker & Lloyd-Walker, 2013) or *voluntary collaborative arrangements* (Rigby *et al.*, 2009) are often found. Furthermore, both Walker & Lloyd-Walker (2013) and Rigby *et al.* (2009) identify project and strategic partnering, alliancing, and framework arrangement as examples of such relationship based procurement or voluntary arrangements.

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<sup>2</sup> In Swedish: Lagen om offentlig upphandling

### 2.3.1 Partnering

The use of partnering has increased during the last decades, for example throughout Europe, Australia, and the USA (Walker & Lloyd-Walker, 2013). However, despite the growing interest for partnering, no clear and common understanding of it is considered to exist (Nyström, 2005; Bygballe, Jahre, & Swärd, 2010; Walker & Lloyd-Walker, 2013). There are numerous definitions of partnering; one frequently used is from a task force of the Construction Industry Institute (CII):

”A long-term commitment between 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 organizational boundaries. The relationship is based upon trust, dedication to common goals, and an understanding of each other’s individual expectations and values. Expected benefits include improved efficiency and cost effectiveness, increased opportunity for innovation, and the continuous improvement of quality products and services.“ (Construction Industry Institute, 1987)

This definition emphasizes some important key elements as well as expected benefits from partnering. It stresses the importance of trust and mutual understanding, which is confirmed by Nyström (2005) as the most essential components of a partnering relationship. Furthermore, Cheng and Li (2002) performed a quantitative study where they identified four main critical success factors: top management support, open communication, effective co-ordination, and mutual trust. An initial workshop is normally held in the beginning of a relationship in order to develop a partnering declaration where mutual goals are set. Typical partnering tools are designed to support team building, joint-problem solving, mechanisms for monitoring and follow-up, and finally open books to create financial transparency.

The partnering Task Force of Reading Construction Forum (Bennet & Jayes, 1998) distinguishes three forms, or generations, of partnering. First generation partnering implies delivery of a single project and focuses of three main principles: mutual objectives, decision-making and problem solving and, finally, continuous measurable improvements. Second generation partnering corresponds to what is referred to as strategic partnering. It implies a long-term, strategic dimension added to a number of sequential projects undertaken by a strategic team. Third generation partnering runs throughout the entire supply chain and builds up an efficient virtual organization.

### 2.3.2 Strategic partnering

As already stated, strategic partnering runs over a number of sequential projects, undertaken by the same project delivery team. There are mutual intentions to improve the quality of the relationship and project performance over time. Thus, learning and continuous improvements are central concepts within a strategic partnering relationship. This is confirmed by partnering research, where critical success factors for strategic partnering relationships are identified as long-term commitment, continuous improvement, a learning culture, and partnering experience (Cheng & Li, 2002; Cheng *et al.*, 2004). Further expected benefits are such as cost savings and better use of knowledge and experience from both team members and previous projects (Rigby *et al.*, 2009). Strategic partnering is particularly suitable when the work undertaken is repetitive or has a challenging time frame (Rhodin, 2012).

### *Experiences from the UK*

In the UK, the use of strategic partnering has been widespread in some sectors. In particular, a national, collaborative framework agreement concerning hospital construction, ProCure21, has been successfully implemented (Department of Health, 2012). This was a result of the criticism the industry had received and a growing frustration among the hospital trusts. The framework agreement enables National Health Service organizations to procure one of six Principal Supply Chain Partners to undertake work concerning planning, maintenance, refurbishment, and construction solutions (Department of Health, 2012). The NHS chooses to procure within ProCure21 since it is proven to increase time efficiency as well as value for money through integrated teams and continuous improvements. Furthermore, within ProCure21 there is a learning unit, which provides education concerning how to be a good client organization within this kind of strategic partnering relationships (Woolliscroft, 2013).

### *Swedish practices and research on strategic partnering*

Long-term and collaborative relationships have existed for long time within the Swedish construction industry, although the degree of formalization has been rather low (Rhodin, 2012). Recently, strategic partnering as a formalized way of procuring such relationship is increasingly used, mainly within the public sector. However, as mentioned earlier, research concerning strategic partnering within Swedish construction industry is limited. Two reports presenting the state-of-the-art concerning strategic partnering in Sweden have been identified: Rhodin (2012) and Kadefors, Thomassen, & Nordal Jorgensen (2013). Kadefors, Thomassen, and Nordal Jorgensen (2013) performed two case studies of such relationships, one of a public client, Telge Fastigheter, and one of a private, in the report called Globechem. Rhodin (2012) examined experiences and practices of strategic partnering relationships and also made an inventory of such relationships. Furthermore, Fernström (2006) wrote a reference guide concerning how to initiate and manage these relationships. Two master theses have analyzed strategic partnering relationships with public clients, both performing a case study on Telge Fastigheter (Karlsson & Lindfors, 2011; Sandberg, 2011).

### **3. THEORETICAL FRAMEWORK**

*This chapter aims at providing a theoretical foundation for answering the research questions. It provides a description of how organizations learn, followed by research on learning in alliances, based on literature that is both general and dedicated to the construction industry.*

#### **3.1 How do organizations learn?**

Organizational learning is an area within organizational theory with a main focus on models and theories concerning how organizations learn and adapt. Levitt and March state that organizational learning can be seen as a process of adaption to an organization's environment as it changes (Levitt & March, 1998). Organizations can learn from their members by taking advantage of their interaction, experience and tacit knowledge, which may result in a competitive advantage for the organization (Clegg, Kornberger, & Pitsis, 2008). Organizational knowledge is regarded to be stored within an organization's culture: in its routines, processes, practices and stories. Consequently, for an organization to learn and adapt to environmental changes, it needs to acquire new knowledge, followed by adaption and transformation of its culture through abandoning old habits for new ones.

There is a well-known model that differentiates between two kinds of learning: single- and double-loop learning (Argyris & Schon, 1978). Single-loop learning means accepting given terms with the intention to optimize problem solving, while double-loop learning implies rethinking given terms in order to develop something different.

##### **3.1.1 Learning in a construction context**

In literature that concerns learning in construction projects, it was found that learning in general is low prioritized, problematic, and unsystematic (Josephson, Styhre & Wasif, 2008). Learning is suggested to mainly take place through personal contact, communities of practice and learning by doing rather than through technical and formal systems (Styhre, Josephson & Knauseder, 2004). This low degree of formalization implies that organizational learning mainly takes place through self-organizing processes. Meetings and arenas for personal contact enable sharing of knowledge and information and, consequently, provide joint learning and better use of individually held resources. Furthermore, from an extensive interview study on learning within construction projects (Josephson, Styhre & Wasif, 2008), it was found that there exists unfamiliarity within construction projects to talk about learning and that there exists a need for reflection.

##### **3.1.2 Knowledge management**

Learning is closely linked to the concept of knowledge (Clegg, Kornberger & Pitsis, 2008). While knowledge management focuses on the existing state of knowledge, learning is rather the dynamic development of the same. However, except for learning, there exist various terms that refer to increasing the level of knowledge within an organization, such as knowledge transfer and experience feedback (Josephson, Knauseder & Styhre, 2003). There are mainly two different types of knowledge, based on the assumption that we know more than we can tell: tacit and explicit knowledge (Nonaka, 1994). Tacit knowledge is deeper and consists of personal beliefs and values, and is hard to communicate. Explicit knowledge is

formalized and can more easily be shared. Lately, tacit knowledge has increasingly become considered valuable and a source of innovation (Inkpen, 1998; Clegg, Kornberger & Pitsis, 2008). Consequently, knowledge management is much about transforming tacit knowledge into organizationally explicit information, in order to enable sharing and exploitation and at the same time avoid losses from personnel turnover.

### 3.1.3 Continuous improvements

Continuous improvement is commonly defined as "an organization-wide process of focused and ongoing incremental innovation" (Bessant *et al.*, 1994). Continuous improvement strategies are based on making small, continual changes in order to improve processes and quality by eliminating waste and adding value. During decades, strategies such as *Lean manufacturing* and *Six sigma* have evolved with the focus on organization improvement (Bhuiyan & Baghel, 2005). Such strategies focus on the entire organization, from top management to the shop floor. These embrace improvements concerning a broad area, from the organization's strategy to its day-to-day tasks.

Bessant *et al.* (1994) developed a model over how to successfully achieve continuous improvements in an organization. Except for a clear strategic framework, strategic management, a supportive culture, an enabling infrastructure and a supportive tool kit, continuous improvements need to be managed as a process. The Deming wheel is a widely used learning cycle, which iteratively runs over the phases PLAN-DO-CHECK-ACT. It starts by planning ahead for changes, followed by execution of the plan. The results should be studied and finally, corrective action is requested in order to improve the process. Hereafter, one should return to step one and plan for the next improvement. Thus, all phases are vital in order to complete the cycle.

The use of key performance indicators, KPIs, can assist benchmarking through measuring of the performance and improvements of a partnering project. Some of the most important KPIs are time performance, top management commitment performance, quality performance, and innovation and improvement performance (Yeung, Chan, & Chan, 2010).

### 3.2 Learning in alliances

In general alliance literature, the importance of learning is commonly emphasized (Inkpen, 1998; Kale & Singh, 2007). Alliances create a unique opportunity for learning when firms with different knowledge, skills and capabilities merge (Inkpen, 1998). Such complementary know-how is one reason why organizations join an alliance and may be used both in order to improve a certain project undertaken together as well as to improve the strategy and operations of an involved organization itself. Transparency and the intention to learn through collaboration are conditions for inter-organizational learning to take place within alliances (Tidd, Bessant, & Pavitt, 2001; Clegg, Kornberger, & Pitsis, 2008). The opposite- partner protectiveness- is an issue, derived from lack of trust, which hinders the sharing between organizations due to the risk of knowledge leakage to competitors (Inkpen, 1998).

Kale and Singh (2007) confirm that a well-developed alliance learning process within an organization is a critical success factor. They define such an alliance learning process as "directed toward helping a firm and its managers to learn, accumulate, and leverage alliance management know-how and best practices" (Kale & Singh, 2007). Examples of routines within such process for learning are related to articulation, codifying, sharing, and internalizing alliance management know-how and best practices. Articulation, in this context, may be referred to as taking advantage of the individually held knowledge and skills within employees of an organization, in order to turn it into explicit information. Codification refers to conversion of information through the creation and use of tools such as manuals, guidelines, templates, and checklists in order to assist acting or decision-making. Sharing of alliance management know-how and best practice might go through a formal body of knowledge or an informal conversation. Finally, internalization refers to the absorption of relevant know-how and best practices through training-programmes, double-loop learning, and mentoring.

Furthermore, research has identified alliance success factors such as having earlier partnering experience (Anand & Khanna, 2000) as well as a dedicated alliance function within the company (Kale, Dyer, & Singh, 2002). Such a function is a separate and formalized organizational unit that overviews and manages partnering activity within the firm and accumulates gained experiences and knowledge. Kale and Sing (2007) recognized that having a dedicated alliance function within an organization does not contribute to successful outcomes only by coordinating its overall alliance activity, but rather because it enables a stronger alliance learning process. Not surprisingly, they found that organizations with alliance experiences are more likely to have a dedicated alliance function, and thus a stronger alliance learning process. Accordingly, alliance success is achieved through a firm-level learning process that consists of routines for handling alliance management know-how and best practices.

### 3.3 Alliance learning in a construction context

In accordance with the previous chapter, research on partnering in the construction industry stresses the importance of learning in order to achieve successful alliance outcomes (Holt, Love, & Li, 2000; Cheng & Li, 2001; Cheng *et al.*, 2004). A learning capability is hence recognized as a central concept within strategic partnerships in the construction industry (Chen, Manley, & Lewis, 2012). The authors define learning capability as being:

”...purposefully developed by organizations that frequently participate in collaborative projects, enabling them to systematically create and modify their project routines, and hence ultimately drive the evolution of their collaborative project management capabilities.“ (Chen, Manley & Lewis, 2012)

Thus, learning capability and its underpinned routines for learning enable, through experience, the creation and modification of project routines and management capabilities, which in turn leads to improved alliance performance. Such routines are internal or external, and should explore, transform, and exploit knowledge through a process similar to the one described by Kale and Singh (2007) in the previous section.

Moreover, a learning culture is considered a precondition for organizational learning, and should hence be a core element in a strategic partnership (Cheng *et al.*, 2004), resulting beneficial for both the organization itself as well as for the alliance. Such culture is considered to support and enable team members to both accept and contribute with new knowledge, skills, and technology, which will support organizational learning. This in turn, will reinforce the embedded culture as well as lead to improved alliance outcomes (Holt, Love, & Li, 2000). However, the establishment of a learning culture requires experience, structures for continuous improvements, and a supportive environment (Cheng *et al.*, 2004).

### 3.4 Theoretical summary and refined research questions

The concept of organizational learning focuses on how organizations learn and adapt to a continuously changing environment. Organizational learning in alliances might take place both within an organization itself (intra-organizational learning) and between organizations involved in the alliance (inter-organizational learning). In strategic alliances, sharing of experiences and knowledge seem particularly important, and requires that trust and intentions for mutual learning prevail in the relationship. The long-term dimension of the alliance stress the importance of experience feedback in order to benefit from lessons learned from one project to another, which requires reflection. This implies that a learning process, which consists of routines that explore, transform and exploit knowledge, is a key success factor in strategic partnering relationships. Moreover, a dedicated alliance function, which overviews and manages alliance activity and accumulates know-how and experiences, was recognized as critical for achieving alliance success. Over time, a learning capability is developed, where project routines are systematically created and modified, further driving the evolution of the collaborative management capabilities. Continuous improvements might be processed through an iterative circle, which runs over the phases of PLAN-DO-CHECK-ACT.

This summary leads to a development of the second research question into four refined research questions, two addressing inter-organizational learning and two focusing on intra-organizational learning.

- RQ 1      To what extent and in which situations are strategic partnering relationships used within the Swedish construction industry?
  
- RQ 2      How are strategic partnering relationships within the Swedish construction industry currently managed in order to enable efficient structures for learning and continuous improvements?

#### ***Inter-organizational learning***

- Which formalized structures for learning and continuous improvements within the alliance exist in strategic partnering relationships in the Swedish construction industry?
- How does learning take place between subprojects and organizations in an alliance?

#### ***Intra-organizational learning***

- Which formalized structures for learning and continuous improvements exist within an organization and its various partnering projects?
- To what extent is a dedicated alliance function used within client and contractor organizations?

## 4. METHODOLOGY

*The following chapter aims to explain the process in which the thesis has been carried out: which research strategy and research design applied, and how the data was collected.*

### 4.1 Overview of the study

In order to gain an initial comprehension about the subject of strategic partnering, the authors participated in a seminar held by Urkraft partnering & ledarskap, which is a company providing services for partnering facilitation and management. Professionals with long experience of strategic partnering in England held lectures followed by discussions. This seminar formed a solid basis for the subsequent research.

The research process was divided into five parts, see Figure 1. First, the thesis purpose, two research questions, scope and limitations were defined. An inventory of existing strategic relationships and a literature review began in January 2014 and run in parallel throughout the entire process. The first research question is answered through the inventory, while the second is answered through the literature review and five case studies. However, the second research question was developed into four refined questions, based on the literature review, in order to facilitate the investigation. Finally, the results were discussed and analysed, and followed by drawing of conclusions.



*Figure 1 The process in which the thesis has been carried out*

### 4.2 Data collection

Research design and method are two important decisions that should be separated (Bryman & Bell, 2011). Research design provides a notion of how the collection and analysis of data will be performed, while research method define how data is actually collected. Generally, two major methods of gathering data are considered to exist: qualitative and quantitative research (Bryman & Bell, 2011). A qualitative research emphasizes words rather than quantity. In this thesis, data was collected by an inventory and five case studies; hence a qualitative research method is chosen. A case study is considered to favour qualitative methods for collecting data since they generate extensive, detailed information. Furthermore, when a case study has a qualitative research strategy, the study tends to take an inductive approach, since much information and knowledge is gained from research through the case studies (Bryman & Bell, 2011).

#### 4.2.1 Literature review

The literature review has been running through the entire process, simultaneously with the inventory and the case studies. The reviewed literature includes scientific journal articles, reports, conference proceedings, and books. The scientific journal

articles were gathered from electronic databases such as *Science Direct* and *Taylor & Francis*, accessed through the Chalmers library. Journals such as *Organization Science*, *Construction Management and Economics*, *Construction Innovation*, and *International Journal of Project Management* have been used. Furthermore, the selection process of articles was extensive due to the large amount of research within the field. Articles' reference lists were checked in order to identify more relevant literature. Also, the number of citations of an article was checked in order to estimate its relevance.

Reports used are mainly Swedish and concern public procurement, the Swedish construction industry, and partnering research. They were accessed through the publishers' webpages, e.g. *upphandlingsstodet.se*. The books used are mainly concerning business research methods. Conference proceedings from the partnering seminar held by Urkraft partnering & ledarskap provided information about strategic partnering experiences from England.

#### 4.2.2 Inventory

An inventory of on-going strategic partnering relationships within the Swedish construction industry was performed in order to answer the first research question. Relationships that fulfill two criteria, see below, within building construction are included in the inventory.

- There should be a formalized agreement on collaboration over multiple subprojects that provides incentives for establishing structures for long-term improvements, which may require upfront investments
- There should be clear intentions for close collaboration between the parties during the entire process

The process of identifying strategic partnering relationships was initially based on an inventory from 2012 (Rhodin, 2012) where relationships that were still ongoing were selected. Hereafter, the major construction companies, Skanska, NCC and PEAB, were contacted in order to identify additional relationships, both through phone calls, e-mails, and searching on their webpages. Furthermore, Jonny Gustavsson, CEO at Urkraft partnering & ledarskap and Peter Höög, partnering manager at Skanska, assisted in the identification of relationships. From here, more relationships could be identified through the snowball effect, which is defined as:

“...a non-probability sample in which the researcher makes initial contact with a small group of people who are relevant to the research topic, and then uses these to establish contact with others” (Bryman & Bell, 2011).

As a result from the snowball effect, key persons in previously identified relationships could name more cities or municipality-owned housing companies that use strategic partnering. After finishing the inventory, a short questionnaire was dispatched in order to collect some general information about each relationship, such as the extent and content of the contract, involved parties, and the clients' perception of working in strategic partnering. The questionnaire was always sent to someone within the client organization who had sufficient knowledge about the subject. This person was most

commonly identified through phone calls. The information gathered from the questionnaire was compiled in a table, see Appendix A, and summarized in Chapter 5.

### 4.2.3 Case studies

The aim of a case study is to give a precise description or reconstruction of a case, such as an organization (Flick, 2009). However, the aim is usually not to make a statement about the concrete case, but rather to make a more general statement. Consequently, a major problem is to identify a case that is significant for the research question. The issue of to which extent findings can be generalized is referred to as external validity, and is considered as weak in a qualitative research. Bryman and Bell (2011) argue that validity refers to the extent a study is observing, identifying, or measuring what the study claims to be investigating. Flick (2009) has a similar view of validity and refers to it as whether researchers see what they think they see. Consequently, the selection of cases is important in order to enable more generalized conclusions to be drawn. By increasing the number of cases, problems with generalization are decreased. Consequently, from the inventory of on-going, strategic partnering relationships, a careful sample of five relationships was made for closer investigation through case studies, see table 1. The cases were selected through purposive sampling with the intentions to achieve maximum variation, which is defined as ‘‘integrating only a few cases, but those which are as different as possible, to disclose the range of variation and differentiation in the field’’ (Flick, 2009). Accordingly, the intentions were to collect relationships in different stages in a time frame, with different contractor organizations and different project content. An additional condition for the selection was for the relationships to be likely to have intentions or actual structures for learning and development. Jonny Gustavsson from Urkraft partnering & ledarskap also assisted in the selection process since he has much experience as a partnering facilitator in a large number of relationships.

*Table 1 Selected cases*

<b>Main partners</b>	<b>Time frame</b>	<b>Content</b>
Eidar Trollhättans Bostadsbolag and Skanska	2012-2018	Refurbishment of 850 dwellings
Alingsåshem and Skanska	2006-2010 2011-2014	Refurbishment and new production
ÖrebroBostäder and Skanska	2012- 2016	Refurbishment and new production
Varbergs Fastigheter and NCC	2013-2018	New production of five preschools
Säfflebostäder and ByggDialog	2013-2017	Refurbishment of dwellings

### *Interviews*

In order to investigate alliance and company level alliance management processes, key persons from both the client and contractor organizations were interviewed. Also,

7 persons from the three contractor organizations were interviewed due to their positions as mediators in different relationships within the organizations, and thus relevant for the aim of the thesis. In total, 17 persons were interviewed, see Table 2 below. The interviews were carried out between March and May 2014. In order to prepare the interviews, the tendering documents from the client organizations were requested and studied. The interviewees chosen from each organization were well informed about the relationship, and consequently possessed much relevant information. From the client organization, this person was most commonly the CEO, and from the contractor organization it was mostly a project manager working on the construction site.

The interviews took a semi-structured approach, which implies that the researcher has prepared questions and topics to cover, but the structure may not ultimately be followed (Bryman & Bell, 2011). This approach was chosen in order to increase flexibility within interviews and allow the interviewee, who had more knowledge in the subject than the interviewer, to give answers outside of the suggested questions. However, there is still a risk that the actual questions have influenced the interviewee and the answers, resulting in loss of important information. The interview questions differed depending on whether the interviewee was representing a client or a contractor organization. In most of the cases, the client organization was interviewed first in order to create a general understanding of the project. While interviewing the contractor organization, greater focus rested on questions concerning the actual work on the construction site, in relation to learning and continuous improvements. The interview questions are found in Appendix A.

Case studies and interviews can achieve higher validation through respondent confirmation. Bryman and Bell (2011) define this process as aiming for confirmation of the researchers' findings and impressions. Areas with lack of correspondence and the reasons for it might be identified and justified. Accordingly, a first draft of the interviews was sent to both interviewed parties from each relationship for confirmation of its congruence. Possible amendments were made.

Table 2 Cases and interviewees

INTERVIEWEES	DATES	APPROXIMATE LENGTHS (H)
<b>AB EIDAR TROLLHÄTTANS BOSTADSBOLAG AND SKANSKA</b>		
Joakim Blomén <i>Project manager, Eidar Trollhättans Bostadsbolag</i>	14-03-06	2
Mikael Rosell <i>Project manager, Skanska</i>	14-03-25	2
<b>ALINGSÅSHEM AB AND SKANSKA</b>		
Ing-Marie Odegren <i>CEO, Alingsåshem</i>	14-03-13	2
Martin Jarlov <i>Project manager, Skanska</i>	14-03-27	2
<b>ÖREBROBOSTÄDER AB AND SKANSKA</b>		
Ulf Rohlén <i>CEO, ÖrebroBostäder</i>	14-04-04	1
Peter Höög <i>Partnering manager, Skanska</i>	14-03-19	2
<b>VARBERGS FASTIGHETER AND NCC</b>		
Magnus Aronsson <i>Project manager, Varbergs Fastigheter</i>	14-03-26	2
Sahroz Sahba <i>Project manager, NCC</i>	14-03-14	2
<b>SÄFFLEBOSTÄDER AB AND BYGGDIALOG</b>		
Gustaf Andersson <i>CEO, SäffleBostäder</i>	14-04-08	1
Börje Ahnfeldt <i>Project manager, ByggDialog</i>	14-04-08	2
<b>ADDITIONAL INTERVIEWEES</b>		
Jonny Gustavsson <i>CEO, Urkraft partnering &amp; ledarskap</i>	14-02-17	2
Lena Schälin <i>Co-ordinator at Miljonhemmet, Skanska</i>	14-05-08	2
Klas Heed <i>Director of Business Development Strategic Partnering, Skanska</i>	14-05-28	0.5
Christine Gustavsson <i>Knowledge sharing manager, Skanska</i>	14-05-19	0.5
Tobias Andersson <i>Partnering manager, NCC</i>	14-05-19	0.5
John Thorsson <i>Partnering manager, NCC</i>	14-05-28	0.5
Anna Rhodin <i>Partnering manager, ByggDialog</i>	14-05-19	0.5

## 5. INVENTORY OF STRATEGIC PARTNERING RELATIONSHIPS

*This chapter aims to present the result from the inventory, which is connected to the first research question that concerns strategic partnering relationships in the Swedish construction industry.*

### 5.1 Identified relationships

31 on-going strategic partnering relationships were identified within the Swedish construction industry, see Table 3. The majority of these, about 85 per cent, are in the public sector, and hence procured according to the Public Procurement Act and through an open procedure. However, very little information could be accessed concerning the four identified private strategic partnerships. Approximately half of the relationships concern refurbishment of dwellings from the Million programme, built between 1965-1975. Others concern new production of dwellings as well as refurbishment of commercial buildings, schools and other municipal buildings. All identified relationships are situated south of Uppsala, and most commonly in smaller municipalities, but some were also found in the area of Stockholm and Göteborg. Only three relationships were found to have framework agreements, the remaining use a collaborative contract followed by a design-build contract for each subproject. Most commonly, a target cost is calculated for each subproject, and a fixed and a reimbursed part are combined. Cost incentives were only used in four relationships.

### 5.2 General perceptions of strategic partnering

The majority of the client organizations were found to have intentions to use strategic partnering relationships in the future, at least when it concerns a large extent of similar work to be undertaken. It was further found from the questionnaire that nearly all relationships use a partnering facilitator, either externally hired as a consultant or provided by the contractor organization. Structures for learning between municipalities as well as templates for tendering and tender documents are desired among many of the client organizations. In a few client organizations, confusion seems to prevail concerning what strategic partnering implies and how it complies with the regulation concerning public procurement.

*Table 3 On-going strategic partnering relationships in Swedish construction industry*

#### **PUBLIC SECTOR**

Time span: 2004-2015

Project: Refurbishment of apartments

Parties: Karlstads Bostads AB and Skanska

Extent (SEK): 508 million

Contract: Collaborative agreement + contract for each subproject

Time span: 2006-2010, 2011-2014

Project: "Brogården", refurbishment of 300 apartments and new production of 80 apartments

Parties: Alingsåshem and Skanska

Extent (SEK): 300 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2009-2015  
Project: "Kvarngärdet", refurbishment of 500 apartments  
Parties: Uppsalahem and ByggPartner  
Extent (SEK): 500 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2010-2014  
Project: Refurbishment and new production of commercial buildings  
Parties: Telge Fastigheter and Skanska (1), NCC (2) and Arcona (3)  
Extent (SEK): 840 million  
Contract: Framework agreement with ranking system

Time span: 2010-2014  
Project: "Gröna gatan", refurbishment 450 apartments and commercial buildings  
Parties: Uppsalahem and Öregrund Bygg AB  
Extent (SEK): -  
Contract: Collaborative agreement + contract for each subproject

Time span: 2010-2014,2014-2017  
Project: Refurbishment  
Parties: Landstingsservice i Uppsala and SH Bygg  
Extent (SEK): 219 million  
Contract: Framework agreement

Time span: 2010-2014  
Project: New production and refurbishment of apartments  
Parties: Vänersborgsbostäder and Skanska  
Extent (SEK): 250 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2010-2014  
Project: New production of pre-schools in Huddinge  
Parties: Huga Fastigheter and NCC  
Extent (SEK): 100-120 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2010-2017  
Project: Refurbishment of apartments  
Parties: Åmåls kommunfastigheter AB and Skanska  
Extent (SEK): 40 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2010-2014  
Project: New production and refurbishment of schools

Parties: Lidingö Stad and Skanska  
Extent (SEK): 300 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2011-2016  
Project: Refurbishment and extension of apartments, new production of pre-schools and sheltered housing  
Parties: Hammaröbostäder and Skanska  
Extent (SEK): 90 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2011-2014  
Project: New construction of apartments and houses, one pre-school and one retirement house.  
Parties: Eksta Bostads AB and Skanska  
Extent (SEK): 300 million  
Contract: Project partnering

Time span: 2011-2015  
Project: New production of 60 apartments/year  
Parties: Mölndalsbostäder and PEAB  
Extent (SEK): 400- 600 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2012-2016  
Project: Refurbishment of apartments  
Parties: Kristinehamnsbostäder and Skanska  
Extent (SEK): 125 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2012-2017  
Project: New production of 190 apartments  
Parties: Bostads AB Mimer and JM  
Extent (SEK): 300 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2012-2017  
Project: New construction of schools  
Parties: Futurum Fastigheter and Skanska  
Extent (SEK): 150 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2012-2018  
Project: Refurbishment of 850 apartments  
Parties: AB Eida and Skanska  
Extent (SEK): 425 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2012-2016  
Project: Refurbishment of apartments  
Parties: Bostadsstiftelsen Platen Motala and Håkan Ströms byggnads AB  
Extent (SEK): 360 million  
Contract: Framework agreement

Time span: 2012-2016  
Project: Refurbishment and new production of apartments  
Parties: Örebrobostäder and Skanska  
Extent (SEK): 600 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2012-2016  
Project: New production and refurbishment of apartments  
Parties: Hyresbostäder i Karlskoga AB and NA bygg  
Extent (SEK): 200-300 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2012-2020  
Project: Refurbishment and foundation reinforcement  
Parties: Svenska Bostäder and Skanska  
Extent (SEK): 400 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2013-2018  
Project: New production of five pre-schools  
Parties: Varbergs fastigheter and NCC  
Extent (SEK):  
Contract: Collaborative agreement + contract for each subproject

Time span: 2013-2017  
Project: Refurbishment of apartments  
Parties: Säfflebostäder and ByggDialog  
Extent (SEK): 100 million  
Contract: Collaborative agreement + contract for each subproject

Time span: 2013-2016  
Project: Refurbishment of apartments  
Parties: Hallsbergs bostadsstiftelse and Skanska  
Extent (SEK):  
Contract: Collaborative agreement + contracts for each subproject

Time span: 2013-2015  
Project: Refurbishment of apartments  
Parties: Bostads AB VätterHem and Skanska  
Extent (SEK): 146 million  
Contract: Collaborative agreement + contracts for each subproject

Time span: 2014-2018

Project: New production and refurbishment of care centres and ambulance stations.

Parties: Landstinget i Värmland and PEAB

Extent (SEK): 160-240 million

Contract:

Time span: 2014-2019

Project: New production of apartments, blocks, senior housing and refurbishment of apartments

Parties: Hyresbostäder Falköping and Skanska

Extent (SEK): -

Contract: Collaborative agreement + contracts for each subproject

## **PRIVATE SECTOR**

Parties: IKEA and PEAB

Parties: Scandic and Skanska

Parties: Nordea and Skanska

Parties: AstraZeneca and Skanska, WSP and Bravida

## 6. CASE STUDIES

*In the following sections, the five case studies will be presented. First, the general process that initiates the relationship is presented, since it was found to be common for the five relationships. Hereafter, a description follows of the three relationships that are procured with Skanska, one with NCC and one with Byggdialog. Focus lies on their structures for learning and continuous improvements through sharing and feedback of experiences.*

### 6.1 Procurement and contracts

As selection criterion for the procurement, the economically most advantageous tender was applied in all five cases, based on about 80% soft requirements and 20% on price. The soft requirements have had focus on the project organization, the people involved, experiences, competence and collaborative capability. Since all five client organizations are public, the procurements were conducted according to the Public Procurement Act and through an open procedure. References, CVs, and interviews with key persons were essential parts of the selection processes due to the great emphasis on soft requirements. After closing the procurement, general collaboration contracts were signed with the awarded contractor organizations, to be followed by design-build contracts for each subproject according to standard agreements (ABT 94 or 06). An external partnering facilitator has been hired, either from Urkraft partnering & ledarskap or from Byggråd i Karlstad, in all of the five studied relationships. Urkraft partnering & ledarskap defines a partnering facilitator as a neutral actor and coach, who should ensure the collaborative interactions as well as assist development of project goals and monitor their progress.

A target cost is calculated for each design-build contract and the contractor is reimbursed for its expenses. However, a fixed part, which is set to a percentage of the target cost and stated in a contractor's tender, covers the contractor's profit, risk, and administrative costs. When assigning a design-build contract, the percentage is turned into a fixed number. No formal cost incentives are used for the contractor in any of the cases. However, the lower the total cost, the higher is the percentage corresponding to the fixed price including profit. The design-build contractor, in collaboration with the client, procured the main subcontractors according to similar conditions as those prevailing in their relationship with the client. Although the remaining subcontractors were usually procured according to a fixed-price contract, there was an intention to establish long-term collaboration with these as well. Open books are used in all studied relationships in order to provide transparency and improved cost efficiency.

### 6.2 Partnerships with Skanska

*The three relationships with Skanska are presented and followed by a description of Skanska's internal routines and systems for partnering projects.*

#### 6.2.1 Eidar in Trollhättan

AB Eidar Trollhättans Bostadsbolag, in the following referred to as Eidar, is a municipality-owned housing corporation in Trollhättan, which owns and manages real estates consisting of about 6000 apartments and other premises such as schools and commercial buildings. Many of their properties are in need of refurbishment concerning structural defects as well as technical installations. This strategic

partnering relationship with Skanska consequently concerns refurbishment of about 850 apartments, divided into four subprojects. This relationship is the first of its kind for Eidar, which is why a partnering facilitator from Urkraft partnering & ledarskap was hired. Four subcontractors are informally a part of the strategic partnering relationship: Bravida (electricity), Radiator (piping), Fyrkantens Ventilation (ventilation), and Schneider (control and regulation technology).

The opportunity to influence the project content over time is considered as one of the main reasons for choosing strategic partnering, according to a project manager at Eidar. Each subproject begins with an inventory in order to prioritize the need of refurbishment, and consequently the extent of work might be adapted as the projects progress. The first subproject, which encompasses 102 apartments, is currently under execution and is expected to be finished in March 2015. The second subproject, which comprises about 170 apartments within the same area, is in the initial design phase and a budget is being developed. When the budget is approved, a design-build contract will be signed, followed by the execution.

A project board, which consists of two representatives from the client and contractor organization each and the partnering facilitator, takes major decisions and handles possible conflicts or issues.

#### *Routines for learning and improvements*

In the tendering documents, the importance of continuous improvements and sharing of lessons learned are repeatedly stated. It further emphasizes the great value enabled when the same project team undertakes sequential projects and, consequently, might bring experiences and knowledge into the following projects. The interviewees of both sides confirm the importance of learning, and claim that a learning culture prevails in the relationship. Despite the early stage of the relationship, a number of structures and routines for learning are identified. A project manager at Eidar, however, claims there will be more such structures in future subprojects, e.g. workshops between every subproject and incentivizing collaborative behavior between the involved actors.

A project manager from the contractor organization, on the other hand, claims that improvements take place on a daily basis on the construction site also without such structures. He considers these improvements to be enabled by the long-term, collaborative relationship and a continuous project delivery team rather than a result of formalized structures for learning. However, workshops between subprojects are most likely to happen in the future, providing an opportunity for follow-up as well as for team building.

So far, there have been two workshops. An initial workshop was held, where key persons from the client and contractor organizations as well as from the four subcontractors and the partnering facilitator participated in order to develop a partnering declaration that states project goals and economic frameworks. This workshop constituted a platform where the various actors and roles get an opportunity to get to know each other as well as to create a common understanding. In connection with the startup workshop, joint study visits were made in order to gain new knowledge, information and inspiration concerning the work that was to be carried

out and the relationship. Among others, they visited projects under strategic partnering relationships in the municipalities of Alingsås and Karlstad. The second workshop followed the completion of a trial stairwell, consisting of nine apartments. The stairwell was carried out in the very beginning of the relationship, as a part of the first subproject. During the succeeding workshop, all the organizations involved and team members working on the construction site participated in order to discuss issues related to the process, the relationship, and quality, resulting in new ideas for improvements. In connection with these workshops, a number of training programs and educations concerning work on the construction site were held.

Design meetings are held in the initial stage of the project in order to avoid issues concerning over-budgeting. Actors such as the client organization, the end users and facility management organizations participate in order to prioritize and decide on how to distribute the money available for the project. The number of such meetings will be reduced as more projects are carried out.

Furthermore, improvement meetings are held about once a month where actors from all levels participate. The project manager from Skanska leads these meetings, and his strategy is to form groups that consist of people with different backgrounds and face them with a problem to solve. The results are further discussed and put together in a document, and constitute project goals to be followed in the next project. Much improvement has been recognized as a result from these meetings, such as the design of the ventilation system and accessibility in the apartments. Another improvement that has taken place due to the strategic partnering relationship is the use of inspection plans, which are placed in each apartment. These plans provide efficient exchange of experience among various actors involved in the project as well as quality control. Although they have been used in earlier projects, this long-term, collaborative relationship has enabled great opportunities for developing the process as well as the benefits they bring about.

### **6.2.2 Alingsåshem**

AB Alingsåshem is a municipality-owned housing corporation, which owns and manages approximately 3300 apartments in Alingsås. Many of their apartments are built under the Million programme, between 1965 and 1975, and are in need of refurbishment. Furthermore, there is also a need for new apartments. Accordingly, in 2006, Alingsåshem initiated the procurement of their first strategic partnering relationship concerning refurbishment of the block Brogården into passive houses as well as new production of apartments. This partnership applied between 2006 and 2010 and encompassed 16 buildings with 300 apartments into passive houses and new production of 80 apartments. However, some work from Brogården was passed on to a second strategic partnership, which applies between 2011 and 2014. Additionally, Alingsåshem intends to continue working in strategic partnering for refurbishment of their large stand of dwellings built under the Million programme within the area of Alingsås. Architects and consultants, who are procured according to a framework agreement, will develop the tendering documents for the next strategic partnering relationship, which will be procured in the fall of 2014. Much experience and knowledge from Brogården will be used within these projects.

A partnering facilitator from Urkraft partnering & ledarskap was consulted in the initial stage of the first relationship. A board consisting of representatives from Skanska and Alingsåshem and the partnering facilitator handles possible conflicts and makes major decision concerning the relationship. The subcontractors procured according to long-term, collaborative contracts are Elektromontage (electricity), Stora Mellby Rör (piping), Bravida (ventilation), and Sandå måleri (painting). Furthermore, one architect and one consultant with knowledge and experience in sustainable building are procured with a long-term dimension.

### *Routines for learning*

The CEO at Alingsåshem considers strategic partnering as suitable when it concerns refurbishment of buildings belonging to the Million programme. In previous refurbishment projects of such buildings, different contractors were procured, which resulted in repeated mistakes and increased costs. With strategic partnering, the ambitions were to benefit from the repetition of similar projects undertaken together, and improve the process between every subproject. In the tendering documents, the importance of systematically working with continuous improvements and experience feedback was stressed.

Throughout the entire process, much focus has been on how to introduce experiences and lessons learned from earlier subprojects in order to improve quality and reduce costs in the sequential ones. The CEO at Alingsåshem stresses the importance of a leadership characterized by coordination rather than giving instructions in order to achieve such outcomes. A substantial challenge is how to benefit from every individual involved in the alliance. By emphasizing the different roles within a project, what they do and what knowledge they might contribute with, then coordinate these in an effective manner, much knowledge could be gained. She further considers this kind of coordinating leadership to be enabled through partnering, although it requires a positive response and attitude among the team members. A project manager at Skanska agrees with the great value of a modern, coordinating leadership. He practices such leadership by using visualization and experiences during workshops, which have been held between every subproject. He claims that these workshops in combination with a modern leadership result in a deeper understanding among the entire team. One example of visualization is the use of thermal imaging of the apartments, and comparing these before and after the refurbishment into passive houses has taken place.

The relationship began with an initial workshop and a study visits to Karlstad, where one of the few current strategic partnering relationship was to be found at the time. During this workshop, key persons from Alingsåshem and Skanska participated. It ran over two days and resulted in a partnering declaration, where common goals for the relationship were stated. However, during the entire process, much focus has been on how to make improvements between the subprojects. After terminating a subproject, both time and money have been dedicated by holding an evaluating workshop where members from all main organizations involved participate. The objectives were to create a common understanding for the upcoming project, provide feedback of experiences from the previous one, and acquire new knowledge. A study visit was made to a partnering project in Södertälje, where insights were gained concerning how to apply lean thinking on the current work. Furthermore, guest lecturers were

invited, which covered topics such as security on the construction site, availability in the apartments and passive house technologies. In addition, the workshops provided a platform for actors such as engineers, architects and the craftsmen to share their ambitions, experiences and knowledge with the intentions to create a common understanding as well as to enhance commitment and the level of innovation within the team. In general, it is considered to prevail a learning and supportive environment among the craftsmen, where their knowledge and experience are highly valued. This has led to a large number of improvements to take place over time.

### **Improvements**

A major improvement derived from this relationship and its subprojects is a high-tech, high insulating, pre-fabricated external wall. This wall is further intended to be used in a future refurbishment project in an adjacent residential area. According to the CEO at Alingsåshem, the new external wall might imply that the tenants do not have to move out while their apartments are refurbished. However, the wall design has been developed through various stages, involving all concerned parties within the relationship. The process began after refurbishment of the first building, which was considered a pilot project. A need to develop the initial wall design was identified by the craftsmen. Consequently, craftsmen, engineers, managers, material suppliers, and other concerned alliance members sat down together in order to develop and improve the current design. This resulted in a second design, which was more energy efficient as well as cheaper and easier to build. However, after the eleventh building, the wall design was subject to further development and improvements through participation in a EU project named BEEMup<sup>3</sup>. This EU-project concerns refurbishment of existing buildings with the intention to substantially reduce energy consumption. The result was a high-tech, high insulating, and pre-fabricated external wall that reduces the energy consumption by 75%. Besides, it contributes to a better working environment for the craftsmen. This improved wall design is considered to result from the innovative and creative environment, where the knowledge and experience of the individual professional workers have been highly valued. Furthermore, weekly meetings, workshops between subprojects and improved logistics are considered to have contributed to the development of the wall.

Another essential improvement that was enabled within this relationship and its subprojects concerned the logistics. Due to the problematic situation that normally prevails on a construction site, where construction materials are seldom delivered on the right time, coordinated deliveries were tried out. This resulted in fewer and adjusted deliveries that were packaged for each apartment, and consequently could be put in place before the walls were assembled. This was a large improvement that has been further used in later projects.

### **6.2.3 ÖrebroBostäder**

ÖrebroBostäder AB, in the following referred to as Öbo, is a municipality-owned housing corporation in Örebro, which owns and manages properties such as apartments and commercial buildings. They own approximately 23 500 properties in the municipality of Örebro. There is a need for both refurbishment of existing properties and new productions. Vivalla is the biggest residential area of Örebro, with

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<sup>3</sup> Building Energy Efficiency for Massive market Uptake

6500 inhabitants. However, problems concerning segregation, security, and reduced satisfaction among the tenants are considered to prevail. In connection with current refurbishment and new production, Öbo makes great efforts to reverse the negative trend. In the tendering documents for this strategic partnering relationship, the importance of creating social, economical, and ecological sustainability is clearly stated. They further present two different notions that are intended to assist the achievement of the different degrees of sustainability. The concept *Mitt Gröna Kvarter* (My green neighborhood) will contribute to a neighborhood characterized by green areas, environmentally sustainable techniques, and a perception of belonging among the tenants. Great attention will also be paid to the tenants of Vivalla, partly by giving them opportunities to contribute with their point of view concerning the work, and partly by giving unemployed tenants opportunities for traineeships, followed by possible employment. Thus, the Swedish employment center (Arbetsförmedlingen) will also take part in the collaboration and establish a temporary office within the residential area.

The tendering documents were developed by the CEO of Öbo and the partnering facilitator, who is hired from Urkraft partnering & leadership. The strategic partnering relationship was procured in 2012 and concerns refurbishment and new production of apartments throughout eight subprojects. The contract comprises four years, with a possibility of prolongation. The first subproject was finished in March 2012, and the second is currently ongoing. The contractors that are procured under long-term, collaborative contracts are Bravida (electricity), LG Contracting (piping), Piscator (ventilation), and Skanska Mark (ground work).

#### ***Routines for learning and improvements***

As in the previously described case of Alingsåshem, the importance of a modern and committed leadership is stressed, and is considered to enhance creativity and new thinking. The project manager at Skanska further considers informal morning meetings on the construction site as essential, and combined with such modern leadership they provide a platform for active participation, dialogue and discussion. These meetings will further increase the understanding among team members and, in turn, increase efficiency. Moreover, the design of meeting minutes is important. By visualization rather than written documentation, minutes are kept alive also after closing down the meeting. However, the partnering manager considers experience feedback and lessons learned from earlier projects to mainly happen through interactions between various actors rather than through documentation.

An initial workshop was held in order to agree on mutual objectives between the parties. Representatives from Skanska, Öbo, and some of the main subcontractors participated. In connection with this workshop, a study visit was conducted to the strategic partnership in Karlstad in order to gain inspiration and valuable experiences.

In order to review the progress of the project objectives as well as to improve working processes, workshops are continuously held. An activity plan outlines the formal partnering activities. Due to the large amount of persons involved, craftsmen and managers meet separately. During workshops with the craftsmen, they are further divided into smaller teams depending on where on the construction site they work. Here, they get an opportunity to discuss issues of their daily work, e.g. technical

functions or logistics, in order to come up with improvements. Skanska has provided much education internally. On the construction site, educations and training have concerned a wide range of subjects, such as ethics, behavior, and technics.

#### **6.2.4 Structures for partnering development within Skanska**

Skanska has a number of employees dedicated to partnering projects and relationships. A business development manager for strategic partnering, who works across Skanska Sverige's eight regions, has developed a partnering model, which applies in all partnering projects. Moreover, there are eight partnering managers within Skanska, who are involved in approximately three partnering projects simultaneously. There are a number of forums and channels for exchange of information and experiences, although alliance management know-how is mainly shared by personal contacts between the partnering managers, either across projects or across regions. There are both weekly and monthly partnering meetings across the country, which provide a platform for communication, exchange of experiences and information as well as for training. These meetings constitute the central partnering development work within Skanska, in addition, development efforts also take place on regional and project level.

#### **6.2.5 Other systems for knowledge sharing within Skanska**

Skanska has an intranet named OneSkanska, which has the main objective to gather all employees and provide them with new information and a channel for communication. A project database provides information of previous and current projects, although it does not gather detailed information. Skanska also shares information cross-nationally through 15 expert groups, which concern areas such as wind power, operation efficiency and ethics. Moreover, Skanska has a database dedicated to projects that concern refurbishment of dwellings built under the Million programme. This system is called Miljonhemmet.

##### ***Miljonhemmet***

Miljonhemmet is a body of knowledge concerning refurbishment of dwellings constructed within the Million programme. Experiences and information are collected in order to be shared between different refurbishment projects. It can be considered a toolbox with solutions concerning the process as well as social and technical aspects. According to a former coordinator at Miljonhemmet, buildings within the Million programme were built without consideration of environmental sustainability, why many solutions concern energy efficiency such as passive house techniques. The concept was founded in 2008, and initially it mainly included technical solutions. Over time, it was recognized that many improvements also would be enabled from questions concerning social sustainability and operation modes. Consequently, today the database stores documents such as photos, time plans, flowcharts, technical and social processes, tender documents and descriptions as well as contact persons from previous projects.

Due to the large amount of information stored within the database, project managers might have difficulties finding useful information. Therefore, coordinators for Miljonhemmet assist project managers in identifying useful solutions and processes that could fit their projects. About four persons are dedicated to Miljonhemmet in order to support the project organizations. The coordinators make study visits and

perform interviews with project managers and the craftsmen in order to both acquire new knowledge to be stored as well as provide the project team with useful solutions. Through the interviews, they have identified both successful solutions as well as failures.

Miljonhemmet used to have a steering group, First line, which consisted of area managers from different districts in Sweden. Meetings were held once a month and focused on sharing of knowledge between the various regions and their refurbishment experiences, which enabled area managers to help each other. A culture of mutual learning was established, which counter-acted the previous self-interest seeking behavior that used to exist even within the organization. However, this steering group has been disseminated due to several reasons. Firstly, cost and time restrictions confined its existence, and secondly a process to restructure the organization negatively influenced the group, when the chairman changed his position internally within Skanska. According to a former coordinator for Miljonhemmet, the group's dissemination can also be seen as a consequence of a generally weak interest for refurbishment projects among the project managers. However, refurbishment projects are gaining more attention lately, much due to recently graduated university students who perceive questions concerning social and environmental sustainability as more important.

The extensive refurbishment project in Alingsås and Brogården started before Miljonhemmet was initiated, why this project has contributed with rather than acquired information from the database. The information provided to Miljonhemmet has concerned, among others, techniques for passive houses, the high-insulating prefabricated wall, and a new solution for logistics. In the strategic partnering relationship with Eidar, a coordinator from Miljonhemmet was consulted in the beginning in order to contribute with useful information and resources. Mainly information concerning the tender documents and the design phase was collected from Miljonhemmet. Finally, in the strategic partnering relationship with Öbo, information has both been acquired from and provided to Miljonhemmet. The structured, technical process has been taken from Miljonhemmet, providing the project team with tools concerning procedures such as analysis, decision-making, and monitoring. Furthermore, technical solutions have been acquired, either copied straight off or adapted to the specific conditions of Vivalla. Concerning social sustainability and involvement of unemployed tenants, information has been contributed to the database.

## **6.3 The Partnership with NCC**

*The relationship with NCC is presented, followed by a description of NCC's internal system for sharing between projects.*

### **6.3.1 Earlier strategic partnering experiences within NCC**

Since 2003, NCC has taken part in a large number of partnering projects and strategically developed a model for such projects. However, they have mainly been involved in project partnering. NCC has had two strategic partnering contracts with Telge Fastigheter, which is a real estate company owned by the municipality of Södertälje. The first framework agreement was procured in 2008 and concerned new production of preschools. The later one was procured in 2010 and encompasses all

large construction projects. Although Skanska was ranked as the first contractor organization, all construction of schools was passed on to NCC, who was ranked as the second contractor organization. In total, 22 public facilities such as schools and retirement homes have been constructed by NCC under these contracts.

The strategic partnering relationship between NCC and Telge Fastigheter is well studied in Sweden; Kadefors, Thomassen, & Nordal Jorgensen (2013) and two master theses (Karlsson & Lindfors, 2011; Sandberg, 2011) have been identified performing case studies on their collaboration. Consequently, this relationship was not selected for a case study within the current thesis. However, this relationship was recently awarded the *Strategic Partnering Achievement Award* by the US-based International Partnering Institute, IPI (NCC AB, 2014). This award is a result of efficient collaboration and major improvements concerning time, costs and quality.

### **6.3.2 Varbergs fastigheter**

Varbergs Fastigheter AB is a subsidiary of the municipality of Varberg, which owns and manages properties such as schools and sport centers. In the coming years, there is a need to build about ten new preschools in different parts of Varberg. This strategic partnering relationship with NCC concerns design and construction of five high quality and energy efficient preschools, and is the first of its kind for Varbergs Fastigheter. A partnering facilitator from Urkraft partnering & ledarskap has been hired. The process began in 2013; hence the relationship is still in an early phase. The subcontractors, procured according to similar long-term, collaborative conditions, are Bravida (piping), Pålsson Plåt AB (ventilation systems), and Elektro-Emanuel AB (electricity). Furthermore, some architects and consultants are procured according to similar long-term and collaborative agreements, although some are procured under framework agreements within the municipality of Varberg.

A steering group, consisting of two representatives from Varbergs Fastigheter and NCC respectively and the partnering facilitator, has the overall control over the relationship and the project progress. They have meetings about once a month, where the project progress is reviewed and assessed. This is also an opportunity for the parties to discuss and clear up possible disagreements, issues, problems, or even conflicts. Minutes are kept during these meetings.

#### ***Routines for learning and improvements***

In the tendering document, Varbergs Fastigheter states their vision of working in a strategic partnering relationship as involving trust, commitment, close collaboration, common goals, and openness. By involving key persons from different organizations at an early stage, they believe that more creative and suitable solutions might be identified. Both the construction project manager at Varbergs Fastigheter and the business manager from NCC confirm that an important effect of strategic partnering are the benefits derived from the repetition of similar projects undertaken together. Since five preschools of similar nature are to be constructed, it is expected that continuous improvements will result in reduced costs and time for designing and planning. However, the relationship is still at an early stage; the construction of the first preschool is expected to begin in the middle of 2014, shortly followed by the second preschool. Consequently, so far any improvements have not taken place, but

the team has already the fourth and fifth preschools on their mind, which are expected to benefit from the effects enabled from repetition of similar projects.

After closing the procurement, two start-up workshops were held. In the first, representatives from all involved key organizations participated: Varbergs Fastigheter, NCC, Urkraft partnering & ledarskap, the municipality of Varberg, the facility management organization and the end users of the building. During two days, the intentions were for the team members to get to know each other, set up project goals and distribute the money available for the project. According to the business manager at NCC, a great deal of understanding is created when every actor involved participates in the early stages of a construction project. He further considers this as a rather unique opportunity for the end users to influence the final product, which is only possible in a partnering project. In the second workshop, subcontractors and craftsmen participated. Throughout the entire process, workshops with the involved actors at all levels are intended to be held continuously with the main objectives to keep the team tight and introduce new members. Furthermore, NCC has routines for working with visualized planning and follow-up. Through a visualization room, where documents such as time and resource schedules are visibly presented, information is more effectively shared between all team members. This visualization room also works as a tool for a construction meeting every second week, where every actor that currently works on the construction site participates in order to plan, review and discuss issues.

New information, knowledge, and experiences have been acquired both internally and externally by the alliance team members. So far, NCC has held internal training programmes for all employees concerning both passive house technology and principles of partnering. Moreover, study visits were made to Huddinge and Alingsås in order to get inspiration from other projects working under strategic partnering agreements. Experiences have also been brought from similar partnering projects in Vallda as well as the one with Telge Fastigheter. Knowledge transfer has taken place through passing on key persons from the earlier projects to the one in Varberg.

### **6.3.3 Segment Partnering in NCC**

Within Segment Partnering at NCC Construction Sweden is a partnering group consisting of nine people dedicated to supporting and developing the partnering activity within the company. The segment is run by one of NCC Construction Sweden's five vice presidents. The Nordic Partnering Director is the operational manager of the partnering group.

NCC has developed a model, which is applied in all partnering projects, and puts much effort on benefiting from feedback of experiences and lessons learned during the course of each project. For sharing of experiences between projects continuous meetings are held within the partnering group. The Segment provides all partnering projects with a partnering manager as well as training programmes. Much collaboration management know-how is found among these partnering managers, which are involved in several projects simultaneously. The managers' objectives are to support the departments within NCC, which have intentions to sell and carry out partnering projects where appropriate. In an early market stage, the partnering managers explain and aid in achieving the right pre-requisites for good partnering by

working with NCC's contract managers and potential clients. During the execution of a partnering project, they ensure that the collaboration is successful and that the team focuses on what is best for the project. A partnering manager has a neutral role within a partnering project; they do not have authority to make decisions, but rather to assist the team by coaching and facilitating the relationship and share knowledge and experiences. At the end of the project, the partnering managers hold closing workshops where lessons learned are shared and documented.

Within three months of project completion each NCC client receives a standardized questionnaire survey where aggregated results from all partnering projects are monitored and evaluated on a yearly basis or when otherwise requested. The partnering group managers report its work to the executive board of directors.

NCC's internal project auditing group audits approximately three projects in each of NCC Construction Sweden's 17 departments each year and the results and suggestions for improvements are communicated back to the project and to the department manager and to the vice president in charge of the segment at hand. They are responsible to make sure actions are taken within the department and the segment to share best practice and correct potential flaws in the project or partnering process. An update process of continuous improvements and sharing of knowledge in accordance with NCC's renewed partnering strategy is currently under development.

#### **6.3.4 Databases and intranet**

NCC uses various intranet and databases. They have developed a system for project management, PDS, in which documents concerning earlier projects and experiences are gathered and shared. PDS is a searchable tool where both external and internal users, depending on their degree of authorization, might search for information from all stages and processes in a project, such as drawings, photos, and work preparations. Furthermore, Starnet is a tool, which joins employees. It enables sharing of experiences and know-how through communication rather than documentation, as in the case of PDS. It includes a function in which employees might ask questions concerning their current work, and other employees with former experience in the subject can provide them with solutions.

### **6.4 Partnership with Byggdialog**

*The relationship with Byggdialog is presented, followed by a description of Byggdialog's internal system for sharing between partnering projects.*

#### **6.4.1 Säfflebostäder**

Säfflebostäder AB, in the following named Säbo, is a municipality-owned housing corporation in Säffle, which owns and manages about 1300 apartments and 100 commercial premises. Many of their properties are in need of internal and external refurbishment, mainly concerning replacement of the plumbing system. Their intentions are to carry out 19 subprojects under close collaboration with the building contractor Byggdialog, subcontractors, consultants, and the tenants. The refurbishment is estimated to last for approximately ten years, however, this strategic partnering relationship is procured according to the Public Procurement Act, and consequently the contract only applies four years. The work is distributed into four subprojects, and the second is currently under execution. The subcontractors that are

procured under a long-term, collaborative approach are Eltjänst i Åmål AB (electricity), VVS firman i Säffle AB (piping), Säffle Plåt AB (ventilation system), and Colorama (tiling, carpeting, and painting). In times with large volumes of work, Byggdialog hires labor from a staffing company, JoLu Produkter AB. Byggdialog has great experience from both project and strategic partnering.

### *Routines for learning and improvements*

According to the CEO at Säbo, the main reason for using strategic partnering is the possibility to influence the projects as they progress. This is particularly important for large projects where there might not be a clear definition of the extent of the work that needs to be performed. In the tendering document, it is stated that the intentions are to achieve high quality at a reduced price through the joint competence, creativity, and commitment from the involved parties.

After signing a cooperation contract between the parties, an initial partnering workshop was held. A partnering manager at Byggdialog led the process during two days, with the intention to set a number of common goals and present these in a partnering declaration. About 25 selected members from Säbo and ByggDialog as well as subcontractors and consultants participated. However, this relationship is still in an early stage, and its processes and routines for learning are yet not settled. For the future, the intentions are to continuously hold workshops between each subproject. However, some improvements were conducted between the first and second subprojects, primarily concerning the ventilation system and the use of materials. Also, the time frame for the design phase was shortened, due to the use of calculation templates. Furthermore, Byggdialog has routines for acquiring new knowledge, both from internal and external sources. They hire consultants to educate their employees in areas such as safety equipment. In addition, Byggdialog internally educates their carpenters to become area managers.

In this relationship, learning is primarily enabled through meetings at different levels in the common organization. Formal meetings are held between authorized representatives from the organizations about once a month, which provides a platform for making major decisions concerning issues such as the budget and the time frame as well as for solving possible conflicts. Technical meetings are held about every second week. Representatives from Säbo, Byggdialog, the consultant firms, and subcontractors participate in order to make decisions concerning the technical aspect, e.g. where pipes and electric cables should be drawn. Furthermore, meetings with a rather informal approach are continuously held at the construction site. Minutes are kept, and a foreman will represent the team at the remaining meetings. Finally, an overall meeting takes place about once a month where everybody involved in the project participate. These meetings create an opportunity to follow up and discuss whether or not the common goals set in the partnering declaration are achieved. This meeting is led by a project manager at Byggdialog, and emphasis is put on subjects such as working environment, risk management, and mitigation of non-value adding activities. Planning and follow-up of the time plans and resources as well as the collaborative processes are important issues brought up to discussion during these meetings.

#### 6.4.2 Partnering development within Byggdialog

Byggdialog is a contractor organization based in Karlstad, which is specialized on partnering projects. They have developed a partnering model, which emphasizes dialogue and working as an integrated team throughout processes such as defining common goals, conflict management, continuous improvement and building trust. Anna Rhodin is a partnering manager at Byggdialog, and has previously conducted research on partnering projects in the construction industry.

There are mainly two routines identified for sharing alliance management know-how and experiences between different projects within Byggdialog. The first constitutes a meeting, which takes place four times a year. Project managers get the opportunity to meet in order to share experiences from their current projects. The second concerns gathering of deviations and errors from work within the projects within a small database, followed by proposals for improvements. This is considered as an efficient routine for improving processes.

## 7. DISCUSSION

*Firstly, the inventory is discussed and compared to the literature. Secondly, the case studies are discussed and compared in the same way as the inventory.*

### 7.1 Strategic partnering relationships within Swedish construction industry

In this section, the first research question is discussed based on the inventory and compared to the literature on the subject of partnering.

RQ 1      To what extent and in which situations are strategic partnering relationships used within the Swedish construction industry?

In Swedish literature on strategic partnering, it was found that such relationships are increasingly being used, mainly by public clients and through assigning of an overall cooperation contract followed by a construction contract (Rhodin, 2012). Based on two inventories conducted in 2012 and 2014, the first by Rhodin (2012) and the second within the current thesis, the number of such on-going relationships seems to have almost tripled, from approximately 11 to 30. However, neither of the inventories is highly reliable since there is no guarantee that they include every single relationship. Still, they might be considered to provide a strong indication of an increase. Furthermore, it was found that most clients that use strategic partnering are satisfied with the results, and intend to continue using such relationships in future projects. Consequently, the number of strategic partnering relationships is most probably going to continue increasing. Furthermore, nearly all of the identified relationships were found to have public clients. Probable reasons for the low number of private clients are that they do not have to procure services according to the Public Procurement Act or to publish their procurements. Thus, they are not required to explicitly label their intentions as strategic partnering, although they might still use the principles such as long-term commitment and collaboration. The private relationships are also difficult to identify due to lack of open information. The information about the four ones that were actually identified is less trustworthy, since it has not been confirmed by the key partners involved in the relationships.

Strategic partnering is found to be particularly suitable when the work undertaken is repetitive or when the client can save time by procuring all intended work at once (Rhodin, 2012). From the inventory, it was recognized that the relationships were found in the biggest cities, e.g. Huddinge and Södertälje within the Stockholm region, as well as within small and medium sized municipalities, e.g. Alingsås and Örebro. Moreover, approximately half of the identified relationships concerned refurbishment of dwellings built under the Million programme; such work seems to be especially suitable for strategic partnering since it contains similar and repetitive work to be undertaken.

Having earlier partnering experience is recognized as a critical success factors for strategic partnering (Cheng & Li, 2001). This seems to apply in both the procurement process as well as during the execution. A clear majority of the identified relationships involve the largest contractor organizations, such as Skanska and NCC. Probably, small contractor organizations are disfavored in the procurement of

strategic partnering. One reason for this might be that they do not have resources or knowledge for developing such extensive tender documents. Still, they might have the ability to execute the actual work, but the procurement constitutes an obstacle. Additionally, their lack of partnering experience most probably implies another hindrance in the selection process. It was confirmed by various client organizations that Skanska stood out in the selection process due to their large experience and real examples of working procedures.

## 7.2 Learning in strategic partnering

In this section, the second research question is discussed based on the five case studies and compared to the literature review. From the theory compilation, based on the literature review in Chapter 3.4, four refined research questions were defined. These questions are divided into intra- and inter-organizational learning, which are outlined in the bullet list, and discussed under the two sub-headlines below. Lastly, the overall perception of learning within the alliances is discussed under the third sub-headline.

- RQ 2      How are strategic partnering relationships within the Swedish construction industry currently managed in order to enable efficient structures for learning and continuous improvements?

### *Inter-organizational learning*

- Which formalized structures for learning and continuous improvements within the alliance exist in strategic partnering relationships in the Swedish construction industry?
- How does learning take place between subprojects and organizations in an alliance?

### *Intra-organizational learning*

- Which formalized structures for learning and continuous improvements exist within an organization and its various partnering projects?
- To what extent is a dedicated alliance function used within client and contractor organizations?

### 7.2.1 Inter-organizational learning

Both general alliance research (Kale & Singh, 2007) and research on alliances in construction (Chen, Manley, & Lewis, 2012) found that a learning process, which constitutes of well-developed routines to explore, transform and exploit knowledge, leads to better alliance outcomes. However, except for learning, also knowledge transfer and experience feedback are terms that refer to increasing the level of knowledge within an organization (Josephson, Knauseder, & Styhre, 2003). Furthermore, according to Bessant *et al.* (1994), continuous improvement is an organization-wide process for innovation. A widely used model for managing continuous improvements is the Deming wheel, which constitutes an iterative circle that runs over the phases PLAN-DO-CHECK-ACT. In this thesis, an increased level of knowledge is considered to enable continuous improvements, which further result in improved alliance outcomes.

In the studied strategic partnering relationships, learning seems to mainly take place through informal experience feedback and knowledge sharing, but also through a more or less formalized learning process. An initial workshop was held in all five studied relationships, with the objectives to enable team building, set continuous and measurable goals for improvement (KPIs) and provide the alliance members with new knowledge. This workshop might be compared to the initial step in the Deming cycle, *plan*, as well as the first step in the learning process which explores new knowledge. In most cases, internal and external lecturers were invited to educate the alliance members in various areas. Furthermore, a number of more or less formalized routines for learning during the execution of a subproject were identified. These routines mainly concerned sharing of knowledge and experiences through personal interactions and meetings, e.g. the improvement meetings in the relationship between Eidar and Skanska. Few routines for knowledge sharing were subject to documentation and codification, although visualization was, in some relationships, used as a tool for distribution of information. Moreover, in two of the relationships, the interviewees emphasized the role of a modern and committed leadership which enhances individual knowledge and the importance of transforming such tacit knowledge into organizationally explicit knowledge. These routines and structures might correspond to the second stage in both the Deming cycle, *do*, and in the learning process, which transforms knowledge. Finally, in the last stages of a subproject, learning mainly seems to take place through experience feedback. All five relationships had either intentions to have or already existing routines for a conclusive workshop after terminating each subproject. This workshop provides a platform for follow-up of the project goals as well as for reflection and discussion of the performed work in order to reintroduce experiences in the upcoming projects. This routine might be compared to the last phases in the Deming model, *check and act*, where the result is evaluated and corrective action is put in place where the final result differs from the initially set goals.

### 7.2.2 Intra-organizational learning

Research has identified alliance success factors at an organizational level such as having earlier partnering experience (Anand & Khanna, 2000) and a dedicated alliance function, which overviews and manages partnering activity and accumulates experiences (Kale, Dyer, & Singh, 2002). However, Kale and Sing (2007) found that such function leads to alliance success mainly by enabling a stronger learning process to take place. In practice, no such function was recognized within the client organizations, which might be due to several reasons. The studied clients are rather small municipality-owned housing corporations, which have been able to procure all their current work within the same strategic partnering contract. In addition, neither had earlier strategic partnering experience. Consequently, it was not considered to exist any need for such dedicated alliance function within the organizations.

The two largest contractor organizations were found to have a more or less formalized dedicated alliance function. Within the contractor organizations, learning seems to mainly take place through experience feedback and sharing between projects. Both these processes are enabled through the dedicated alliance function, which provides each on-going partnering project within the organization with a partnering manager. Learning through sharing of knowledge and experience within the organization and its various projects is assisted by these managers, which are involved in a number of

projects in parallel. In addition, they have formalized meetings where experiences are exchanged between the managers. As described in the literature, this function was in practice found to overview and manage partnering activity as well as to accumulate experiences. However, the function mainly accumulates experiences in the form of tacit knowledge of the partnering managers; there was no database dedicated to partnering projects and no formal routines for how to update partnering practice based on accumulated experiences. However, databases dedicated to other purposes were found to various extents in all three contractor organizations. These enable sharing of information which is less dependent on personal interaction and communication. Consequently, learning within organizations involved in alliances seem to take place through routines which are both person-dependent and based on documentation. In one studied contractor organization, the content of the database was rather extensive, and consequently required coordinators to assist the project organizations in order to identify useful information to be either provided to or acquired from the database.

### 7.2.3 General perceptions

Josephson, Styhre, & Wasif (2008) concluded that learning in general construction projects is low prioritized, problematic, and unsystematic. In another report, the same authors found that learning mainly takes place through informal and personal interactions and communication (Styhre, Josephson, & Knauseder, 2004). However, alliance research frequently discusses the importance of learning within alliances and how to achieve this: Cheng *et al.* (2004) claim that a learning culture is a condition for organizational learning to take place; Clegg, Kornberger, & Pitsis (2008) suggest that transparency and the intention to learn through collaboration result in efficient alliance learning. Consequently, structures for learning in general construction projects are found to be scarce, while learning in alliances, such as strategic partnering relationship, is found to be a critical success factor. This leads to the question whether or not the inception of strategic partnering in the construction industry has improved practices for learning, such as experience feedback and knowledge transfer.

In practice, a learning culture was, by the interviewees, considered to prevail in all the studied relationships. Issues derived from lack of trust, as Inkpen (1988) terms partnering protectiveness, were not recognized. Consequently, learning is gaining more attention lately within the construction industry, at least within strategic partnerships. The studied organizations seem to understand the potential value in lowering organizational boundaries and allowing trust and knowledge sharing with the construction value chain in order to achieve long-term continuous improvements.

However, it might be discussed whether the ability to accept upfront investments enabling long-term and continuous improvements prevails at all levels within an organization. At a project, or alliance, level this was clearly the case, but regarding the central parts of the organizations this might be questioned. An illustrative example is the steering group of Skanska's Miljonhemmet, which was dispersed due to one individual manager resigning from the chairman post as well as economic short-termism. Still, a number of structures and routines for learning, which support long-term improvements, were identified. On an alliance level, these were mainly person-dependent, which implies that learning through experience feedback and knowledge sharing took place through more or less formal meetings and personal interactions.

Within the contractor organizations, such learning was found to take place partly through personal interactions and partly through systematic documentation and codification within databases. Possibly, the lack of learning routines including documentation within the alliances is due to the still limited alliance experience.

The inventory and the case studies revealed a high degree of similarity between the relationships, especially concerning issues such as procurement, payment principles, and organizational structure. That there are similarities in the tendering documents implies that learning and knowledge sharing take place between client organizations. It was found in the case studies that study visits as well as hiring an external partnering coordinator are common at the inception of a relationship, which might be two means through which such learning takes place. Cross-organizational learning and knowledge sharing might be facilitated and supported through the use of knowledge repositories and brokers, and partnering consultants seem to play an important role in these respects. Urkraft partnering & ledarskap might be considered as such a knowledge repository and broker, since their partnering facilitators are involved in various projects simultaneously and provide sharing of knowledge between client organizations.

Finally, the credibility of the thesis needs to be discussed. As Josephson, Styhre, & Wasif (2008) suggested, there seem to exist unfamiliarity within construction projects to talk about learning. To some extent, this was also the case in the studied relationships. Some interviewees seemed unaccustomed to talk about how learning takes place. In some cases, the questions were not answered at all, while in other occasions, the questions seemed to highly influence, and hence limit, the answer, despite the semi-structured interview approach. Furthermore, learning was sometimes considered by the contractor representatives to routinely and spontaneously take place due to a natural tendency to not repeat one's own mistakes. Accordingly, the results obtained in this study seem to be very dependent on who was interviewed, and their personal experiences and perceptions of partnering and organizational learning.

Furthermore, the extent to which the five relationships are representative of strategic partnering relationships and their structures for learning might be discussed. A drawback from the sample is that many of the relationships currently are in an early stage and hence, did not yet have developed structures for learning. Although, the one relationship that was in the final stages, Alingsåshem, was found to have developed such learning capability.

## 8. CONCLUSIONS

*This final chapter of the thesis aims to answer the two research questions and give some managerial recommendations for strategic partnering relationships.*

### 8.1 Strategic partnering and structures for learning

Strategic partnering is increasingly being used within the Swedish construction industry; approximately 31 such relationships are identified and the majority within the public sector. Such relationships with a private client are harder to identify due to lack of open information and a low degree of formalization. Refurbishment of the large stand of dwellings built under the Million programme seems to be a particularly suitable category of work to be undertaken by strategic partnering since it involves a large extent of repetitive and similar work as well as a high degree of complexity. The overview further shows that small contractor organizations seem to be disfavored in the procurement of strategic partnering. This might be partly due to the extensive work with developing the tender document and partly due to their lack of earlier experiences of such relationships.

Furthermore, there seems to be an awareness of the importance of learning in strategic partnerships, although many interviewees were unfamiliar with defining more precisely how learning takes place. To some extent, learning seems to still be considered as a process that takes place spontaneously over time and does not need explicit management. However, according to literature, experience feedback and knowledge sharing are processes that increase the level of knowledge within the alliance and the organizations. These are further considered to enable continuous improvements concerning the relationship itself as well as the working processes, which in turn leads to improved alliance outcomes. Consequently, an alliance should be effectively managed in order to support knowledge increase, which enables creation and modification of current project routines, which in turn drive the development of the management capabilities. A number of more or less formalized routines and structures for such learning were identified, although they differ depending on if they were found within the alliance or in a single organization. On an alliance level, routines for learning were found to be rather person-dependent. Learning through experience feedback, knowledge transfer and acquisition of new knowledge took place through personal interactions and meetings rather than through documentation. Intra-organizational learning was mainly found within the contractor organizations, where routines for learning existed both as patterns of informal personal interaction and as documentation in databases. A more or less formalized alliance function, which overviews partnering activities and enables learning through experience feedback and knowledge transfer between projects, was found in the two largest contractor organizations. Furthermore, databases for the aim of knowledge transfer through documentation were identified in all three contractor organizations, although in the case of Skanska and NCC they were not dedicated to partnering projects. Lastly, learning and knowledge sharing were also found to take place between client organizations, partly through structures such as study visits and partly through a broker and knowledge repository in the shape of an organization providing the alliances with partnering facilitators and procurement advice.

## 8.2 Managerial recommendations

As stated above, strategic partnerships should be effectively managed in order to support knowledge increase that further enables creation and modification of current project routines and, hence, drive the development of the management capabilities. A learning culture should be established and maintained throughout the relationship by a modern, coordinated and committed leadership. Such leadership stresses the importance of tacit knowledge from team members at all levels and fosters double-loop learning in order to enhance innovation within the alliance. Furthermore, explicitly formalized structures and routines for learning are recommended within the alliance as well as within the single organizations. Considering learning as a self-managing process might be damaging for the alliance outcomes since much valuable knowledge and experiences might be lost. Structures that enable experience feedback and knowledge transfer are essential.

Both client and contractor organizations have much to gain from further conceptualizing and formalizing the routines, also involving documentation and codification, in order to benefit from experiences in subsequent projects and relationships. A formalized and dedicated alliance function is particularly recommended for contractor and large client organizations, since they might be involved in various partnering projects or relationships simultaneously. The function should provide each partnering project with a partnering manager as well as up to date knowledge and training programmes. Moreover, a dedicated alliance database is recommended, which should ensure that relevant experiences are captured and used to further update alliance management routines and knowledge. Lastly, training programmes for client organizations would be valuable, as in the case of the ProCure21 frameworks for hospital construction in the UK.

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## APPENDIX

### A. Kartläggning av pågående strategiska partneringrelationer i den svenska byggsektorn

#### OFFENTLIGA BESTÄLLARE

##### Tidsperiod: 2004-2015

Projekt: Renovering och ombyggnad av lägenheter

Huvudparter: Karlstads Bostads AB och Skanska

Omfattning (kr): 508 miljoner

Kontrakt: Samarbetsavtal med entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Löpande räkning

Partneringledare: Partneringledare från Skanska

Kontaktpersoner: Mats Enmark (Karlstad Bostad AB)

Kommentar: Detta var bland de första strategiska partnering relationerna i Sverige. Många beställare som är i inledningsskedet av ett nytt samarbete av denna typ har under åren gjort studiebesök för att ta lärdom av KBAB och deras erfarenhet tillsammans med Skanska. Projektet innehåller 12 delprojekt gällande arbete såsom fasadrenovering, renovering av kök och badrum samt byte av installationer. KBAB planerar en ny upphandling med start under 2014.

##### Tidsperiod: 2006-2010, 2011-2014

Projekt: "Brogården" Renovering av 300 lägenheter

Huvudparter: Alingsåshem och Skanska

Omfattning (KR): 300 Miljoner

Kontrakt: Samarbetsavtal med entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Löpande räkning

Partneringledare: Jonny Gustavsson Urkraft

Kontaktpersoner: Ing-Marie Odegren (Alingsåshem AB) och Martin Jorlöv (Skanska)

Kommentar: I det senaste samarbetet ingår fem delprojekt som nu är i slutskedet. Under 2014 kommer ett nytt strategiskt partnering-samarbete att

inledas. Sedan starten 2006 har många förbättringar genomförts, både gällande samarbetet och arbetsprocesser. Ing-Marie Odegren (Alingsåshem) är en drivande kraft bakom införandet av strategiska partnering relationer och lägger stor vikt vid organisationen och dess människor.

**Tidsperiod: 2009-2015**

Projekt: "Kvarngärdet" Ombyggnad av 500 lägenheter

Huvudparter: Uppsalahem och ByggPartner

Omfattning (KR): 500 miljoner

Kontrakt: Samarbetsavtal med entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Riktpris + fast del

Partneringledare: Intern partneringledare samt inhyrd konsult från Prolog

Kontaktpersoner: Lars -Gunnar Sjö (Uppsalahem)

Kommentar: Uppsalahem har tidigare erfarenhet av projekt-partnering men detta var deras första strategiska partnering-relation. Strategisk partnering valdes för att möjliggöra förbättringar samt skapa kontinuitet i arbetsprocessen, samt underlätta upphandlingskedet.

**Tidsperiod: 2010-2014**

Projekt: Om- och nybyggnad av kommersiella fastigheter

Huvudparter: Telge fastigheter och entreprenör enligt rangordning:

Skanska (1), NCC (2) och Arcona (3)

Omfattning (KR): Hittills runt 840 Miljoner i avslutande samverkansprojekt

Kontrakt: Ramavtal med rangordning

Entreprenadform: Totalentreprenad

Ersättningsform: Löpande räkning

Partneringledare: Partneringledare från NCC samt konsultföretag

Kontaktpersoner: Taina Sunnarborg (Telge fastigheter) och Matti Virkki (NCC)

Kommentar: Detta samarbete är en fortsättning på ett tidigare strategiskt samarbetsavtal med NCC, och rör större konstruktionsprojekt. Vanligtvis avser projekten ny- och ombyggnation av skolor och förskolor, men även lokaler såsom äldreboende och idrottshallar. Strategisk partnering valdes då det skapar en plattform för utveckling, samverkan med slutkunden samt att det passar den politiska processens krav.

**Tidsperiod: 2010-2014**

Projekt: "Gröna gatan" Ombyggnad 450 lägenheter och butiker

Huvudparter: Uppsalahem och Öregrund Bygg AB

Omfattning (KR)

Kontrakt: Samarbetsavtal med entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Riktpris + fast del

Partneringledare: Intern partneringledare samt inhyrd konsult från Prolog

Kontaktpersoner: Lars- Gunnar Sjö (Uppsalahem)

Kommentar: Detta är det andra strategiska partnering samarbetet som Uppsalahem har upphandlat, och pågår parallellt med det första. De har även för framtiden planer på att fortsätta använda denna arbetsform.

**Tidsperiod: 2010-2014, 2014-2017**

Projekt: Ombyggnationer

Huvudparter: Landstingsservice i Uppsala och SH bygg

Omfattning (KR): 219 Miljoner

Kontrakt: Ramavtal

Entreprenadform: Totalentreprenad

Ersättningsform: Fast + rörlig del

Partneringledare: Partneringledare från WSP Management

Kontaktpersoner: Sören Hill (Landstingsservice i Uppsala)

Kommentar: Strategisk samverkan valdes då det fanns många projekt som behövde samordnas.

**Tidsperiod: 2010-2014**

Projekt: Nybyggnation samt stamreovering av lägenheter

Huvudparter: Vänersborgsbostäder och Skanska

Omfattning (KR): 250 miljoner

Kontrakt: Samarbetsavtal med entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Fast + rörlig del

Partneringledare: Jonny Gustavsson, Urkraft

Kontaktpersoner: Jan- Eric Borgmalm (Vänersborgsbostäder AB), Glenn Johansson (Skanska)

Kommentar: Vänersborgsbostäder och Skanska har tidigare erfarenhet av strategisk partnering tillsammans då de påbörjade ombyggnation av äldreboende två år tidigare. I detta fall valdes strategisk partnering då det skulle finnas flera upprepande moment under cirka fem års tid. Underleverantörer upphandlades tillsammans av båda huvudparter enligt liknande, långsiktiga villkor.

**Tidsperiod: 2010-2014**

Projekt: Nybyggnation av förskolor i Huddinge

Huvudparter: Huga fastigheter och NCC

Omfattning (KR): 100-120 miljoner

Kontrakt: Samarbetsavtal med entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Löpande räkning med incitament

Partneringledare: Extern från WSP

Kontaktpersoner: Mikael Alfredson (Huga fastigheter),

Kommentar: Strategisk partnering har använts tidigare i Huga Fastigheter och beställaren vill använda den här arbetsformen i framtiden.

**Tidsperiod: 2010-2017**

Projekt: Stam- och badrumsrenovering på lägenheter

Huvudparter: Åmåls kommunfastigheter AB och Skanska

Omfattning (KR): ca 40 miljoner

Kontrakt: Samarbetsavtal och entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Fastpris + rörligt

Partneringledare: Partneringledare från Skanska

Kontaktpersoner: Magnus Dalsbo (Åkab), Hans Olsson (Skanska)

Kommentar: Åmåls kommunfastigheter AB har tidigare haft ett partnering-samarbete vid byggnation av en simhall, men det var deras första strategiska partnering-relation.

**Tidsperiod: 2010- 2014**

Projekt: Om-, till- och nybyggnation av skolor

Huvudparter: Lidingö Stad och Skanska

Omfattning (KR): 300 miljoner

Kontrakt: Samarbetsavtal med entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Löpande räkning mot ett riktpolis med incitament genom en 50/ 50 fördelning av vinst och risk

Partneringledare: Andreas Abrahamson från AVK AB

Kontaktpersoner: Anders Sundqvist (Lidingö Stad)

Kommentar: Lidingö Stad hade ingen tidigare erfarenhet av strategisk partnering. Då detta avtal med Skanska är i slutfasen, upphandlas i nuläget en ny strategisk partneringsamverkan.

**Tidsperiod: 2011-2016**

Projekt: Ombyggnad, tillbyggnad bostäder, nybyggnad förskolor och trygghetsboende

Huvudparter: Hammaröbostäder och Skanska

Omfattning (KR) 90 miljoner

Kontrakt: Samarbetsavtal och entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Löpande räkning

Partneringledare: Partneringledare från Skanska

Kontaktpersoner: Staffan Åberg (Hammaröbostäder)

Kommentarer: Detta var Hammaröbostädernas första strategiska partnering-relation.

**Tidsperiod: 2011-2015**

Projekt: Nybyggnation av 60 bostäder/år

Huvudparter: Mölndalsbostäder AB och PEAB

Omfattning (KR): 100-150 million

Kontrakt: Samarbetsavtal och projektpartnering-avtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Löpande räkning i inledningsskedet därefter kontraktssumma.

Partneringledare: Finns inte

Kontaktpersoner: Christer Johansson (Mölnadsbostäder AB), Leif Ahlberg (PEAB)

Kommentar: Detta är det första strategiska partnering-samarbetet för Mölnadsbostäder AB. Beställaren vill använda den här arbetsformen i framtiden.

#### **Tidsperiod: 2011-2014**

Projekt: En miljöanpassad stadsdel med 65 bostäder i småhus och flerbostadshus ett äldreboende, en förskola och två verksamhetslokaler.

Huvudparter: Ekstra Bostads AB och NCC

Omfattning (KR): 300 miljoner

Kontrakt: Projektpartnering

Entreprenadform: Totalentreprenad

Ersättningsform: Löpande räkning

Partneringledare:

Kontaktpersoner: Mats Niklasson (Ekstra Bostads AB)

Kommentar: Ekstra Bostads Ab har tidigare arbetat i partnering.

#### **Tidsperiod: 2012-2016**

Projekt: Om- och nybyggnation av stadsdelen Vivalla i Örebro

Huvudparter: Örebrobostäder AB och Skanska

Omfattning (KR): 600 miljoner

Kontrakt: Samarbetsavtal med entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Fast + rörlig del

Partneringledare: Partneringledare från Skanska

Kontaktpersoner: Ulf Rohlén (Örebrobostäder AB), Peter Höög (Skanska)

Kommentar: Arbetet omfattar åtta delprojekt som berör renovering av befintliga byggnader samt nybyggnation. I detta samarbete har man tagit socialt ansvar genom att involvera arbetslösa hyresgäster i bostadsområdet och ge dessa en chans till praktikplats, vilket på sikt kan leda till anställning.

**Tidsperiod: 2012-2016**

Projekt: Ombyggnation av bostadshus i Kristinehamn

Huvudparter: Kristinehamn bostäder och Skanska

Omfattning (KR): 125 miljoner

Kontrakt: Samarbetsavtal med entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Fast + rörlig del

Partneringledare: Finns inte

Kontaktpersoner: Urban Eriksson (Kristinehamn bostäder)

Kommentar: Strategisk partnering valdes för att få större delaktighet samt en bättre slutprodukt. Kristinehamn bostäder har tidigare erfarenhet av två partnering samarbeten, samt ett strategiskt partnering samarbete i förvaltning.

**Tidsperiod: 2012-2017**

Projekt: Nybyggnation av 190 lägenheter

Huvudparter: Bostads AB Mimer och JM AB

Omfattning (KR): 300 miljoner

Kontrakt: Samarbetsavtal med entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Löpande räkning, rörlig + fast del

Partneringledare: Inhyrd konsult från Prolog

Kontaktpersoner: Jan Thedwall (Bostad AB Mimer), Anders Olsson (JM AB)

Kommentar: Strategisk partnering valdes för att redan i ett tidigt skede kunna ha kontroll på byggkostnaden samt för att uppnå ett bra resultat. Bostads AB Mimer har tidigare erfarenhet av strategisk partneringsamverkan och har planer på att använda det även i framtiden.

**Tidsperiod: 2012-2017**

Projekt: Nybyggnation av förskolor

Huvudparter: Futurum Fastigheter och Skanska

Omfattning (KR): 150 miljoner

Kontrakt: Samarbetsavtal med entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Fast+ rörlig del

Partneringledare: Används inte

Kontaktpersoner: Göran Lunander (Futurum fastigheter), Patrik Ihrstedt (Skanska)

Kommentar: Futurum fastigheter hade ingen tidigare erfarenhet av strategisk partnering men har planer på att använda denna arbetsform i framtiden. Strategisk partnering användes för att öka flexibiliteten under arbetets gång, då man i början inte visste var förskolorna skulle byggas.

### **Tidsperiod: 2012-2020**

Projekt: Ombyggnation och grundförstärkning av kvarteret Pyramiden, Södermalm

Huvudparter: Svenska Bostäder och Skanska

Omfattning (KR): 400 miljoner

Kontrakt: Samarbetsavtal med entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Löpande räkning med fast del och incitament

Partneringledare: inhyrd konsult från NYAC Kompetens

Kontaktpersoner: Peter Hamrén (Svenska Bostäder), Fredrik Bele (Skanska)

Kommentar: Arbetet med grundförstärkning och ombyggnation påbörjades genom ett generalentreprenadkontrakt. Då projektet var stort och riskfyllt uppkom ett antal frågor som ansågs kunna lösas bättre genom en strategisk partneringsamverkan. Upprepningseffekter finns som skulle gå förlorade i en entreprenadform utan inslag av långsiktigt samarbete. Svenska Bostäder hade ingen tidigare erfarenhet av strategisk partnering och i framtiden har man endast planer på att använda detta i omfattande och komplexa projekt.

### **Tidsperiod: 2012-2016**

Projekt: ROT-renovering av 400 lägenheter, el- och fasadarbete, grundarbete.

Huvudparter: Bostadsstiftelsen Platen Motala och Håkan Ströms byggnads AB

Omfattning (KR): 360 miljoner

Kontrakt: Ramavtal

Entreprenadform: Totalentreprenad

Ersättningsform: Fastpris + rörlig, riktpolis med incitament

Partneringledare: Inhyrd konsult

Kontaktpersoner: Mats Frid (Bostadsstiftelsen Platen Motala)

Kommentar:

### **Tidsperiod: 2012-2018**

Projekt: Ombyggnation av 850 lägenheter

Huvudparter: AB Eidar och Skanska

Omfattning (KR): 425 miljoner

Kontrakt: Samarbetsavtal med entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Fast + rörlig del

Partneringledare: Jonny Gustafson, Urkraft

Kontaktpersoner: Joakim Blomén (Eidar AB), Mikael Rosell (Skanska)

Kommentar: Strategisk partnering valdes då de möjliggör upprepningseffekter, minska upphandlingstider samt att de ger en större möjlighet att anpassa projektets omfattning. Arbetet innefattar fyra kvarter där det finns behov av renovering och ombyggnation.

### **Tidsperiod: 2012-2016**

Projekt: Nyproduktion av lägenheter och renovering av befintliga

Huvudparter: Hyresbostäder i Karlskoga AB och NA bygg

Omfattning (KR): 200-300 miljoner

Kontrakt: Samarbetsavtal och entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: -

Partnering ledare: Extern partneringledare

Kontaktpersoner: Ann-Christine Kvist (Hyresbostäder i Karlskoga AB), David Åhlund (NA bygg)

Kommentar: Detta är det första strategiska partnering-samarbetet för Hyresbostäder i Karlskoga AB. Beställaren är positivt inställd till strategisk partnering och kommer att använda det i framtiden.

**Tidsperiod: 2013-2017**

Projekt: Renovering och ombyggnation av lägenheter

Huvudparter: Säfflebostäder AB och ByggDialog

Omfattning (KR): 100 miljoner

Kontrakt: Samarbetsavtal och entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Fast + rörlig del

Partneringledare: Anna Rohdin, ByggDialog

Kontaktpersoner: Gustav Anderson (Säfflebostäder), Börje Arnfeldt (ByggDialog)

Kommentar: Säfflebostäder hade tidigare erfarenhet av projekt-partnering, men detta samarbete är det första inom strategisk partneringsamverkan. Strategisk partnering valdes för att öka flexibilitet under projektens gång, då det från början fanns lite kunskap om exakt vad som skulle genomföras.

**Tidsperiod: 2013-2016**

Projekt: Renovering av lägenheter

Huvudparter: Hallsbergs bostadsstiftelse och Skanska

Omfattning (KR) -

Kontrakt: Samarbetsavtal och entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: -

Partneringledare: Finns

Kontaktpersoner: Anders Karlson (Hallbo)

**Tidsperiod: 2013- 2015**

Projekt: Upprustning av bostäder i kvarteret Råslätt, Jönköping

Huvudparter: Bostads AB VätterHem och Skanska

Omfattning (KR): 146 miljoner

Kontrakt: Samarbetsavtal med entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Fastpris + rörlig del

Partneringledare: Kristina Hedberg partneringledare från Skanska

Kontaktpersoner: Annika Karlen (Bostad AB VätterHem), Klas Heed (Skanska)

Kommentar: Bostads AB VätterHem har tidigare erfarenhet av partnering, men detta är deras första strategiska partnering-relation.

### **Tidsperiod: 2013-2018**

Projekt: Nybyggnation av 5 förskolor

Huvudparter: Varbergs kommun och NCC

Omfattning (KR): -

Kontrakt: Samarbetsavtal och entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Riktpris, fast + rörlig del

Partneringledare: Jonny Gustavsson, Urkraft och partneringledare från NCC

Kontaktpersoner: Sharoz Sahba (NCC), Martin Rilander (Varbergs fastigheter)

Kommentar: Strategisk partnering valdes för att kunna dra nytta av erfarenhetskurvan, vinna projekterings tid samt sänka kostnader.

### **Tidsperiod: 2014-2018**

Projekt: Nybyggnation och renovering av vårdcentraler och ambulansstationer

Huvudparter: Landstinget i Värmland och PEAB

Omfattning (KR): 160-240 miljoner

Kontrakt: Samarbetsavtal och entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: -

Partneringledare: Partneringledare från Peab

Kontaktpersoner: Kent Rimqvist (Landstinget i Värmland)

### **Tidsperiod: 2014-2019**

Projekt: Nybyggnation av lägenheter, punkthus, serviceboende, stam och ROT renovering av befintliga lägenheter.

Huvudparter: Hyresbostäder Falköping och Skanska

Omfattning (KR): -

Kontrakt: Samarbetsavtal och entreprenadavtal för varje delprojekt

Entreprenadform: Totalentreprenad

Ersättningsform: Löpande räkning.

Partneringledare: Jonny Gustafson, Urkraft

Kontaktpersoner: Anders Johansson (Hyresbostäder Falköping), Magnus Anderson (Skanska)

Kommentar: Detta är det första strategiska partnering-samarbetet för Hyresbostäder Falköping. Tidigare har ett projekt utvecklats till partnering och denna arbetsform var något som ansåg vara ett bra arbetssätt.

## **PRIVATA BESTÄLLARE**

Huvudparter: IKEA och PEAB

Huvudparter: Nordea och Skanska

Huvudparter: AstraZeneca och Skanska, WSP och Bravida

Huvudparter: Scandic och Skanska

## B. Intervjufrågor till beställar-organisationer

### ALLMÄNT OM SAMARBETET

- Vilken tidigare erfarenhet av partnering har du och din organisation?
- Varför valde ni att arbeta med strategisk partnering?
- Vilka parter ingår formellt i samverkan? (Arkitekt, konsulter och entreprenörer)
- Förfrågningsunderlag: vem tog fram förfrågningsunderlaget och vilka andra aktörer och kontrakt har man hämtat inspiration från?
- Upphandling: hur gick den till? Vilka urvalsparametrar/ utvärderingskriterier var avgörande? Användes intervjuer? Vilka medverkade i utvärderingsgruppen?
- Vilka kontrakt har använts? (Ramavtal eller övergripande- samt entreprenadavtal..)
- Vilken/vilka entreprenadform/er används?
- Vilken/vilka ersättningsform/er används (inklusive bonusar och incitament)?
- Vilka uttalade partnering-processer finns (workshops, facilitator, deklaration, uppföljning, mm)?
- Hur upplever du som beställare arbetet med strategisk partnering jämfört med konventionella arbetsformer? Är det lättare att genomföra förändringar vid senare tillfällen i projektet? Tar det mycket tid?
- Har du upplevt några nackdelar med strategisk partnering? Har det uppstått problem och konflikter under arbetets gång?
- Vad är era planer för framtiden?

### FRÅGOR RELATERAT TILL LÄRANDE OCH UTVECKLINGSARBETE

- Vilken syn finns på lärande och utvecklingsarbete inom samarbetet? Hur ser du som beställare på det? Upplevs det vara viktiga parametrar för alla inblandade?
- Hur organiseras utvecklings- och förbättringsarbete inom och mellan delprojekt?  
Vilka rutiner och processer finns inom samarbetet?
- Vilka förbättringar har ni utvecklat under samarbetets gång?  
Arbetsprocesser, arbetsformer, nya metoder och rutiner, samarbetet i sig?  
Relaterat till kostnad, kvalitet och tid?
- Upplever du att ni med tiden utvecklat er inlärningsförmåga d.v.s. en förmåga att systematiskt skapa och ändra projektrutiner, och i slutändan driva utveckling av samarbetets management-processer?
- Vilka källor för ny information används för lärande och utveckling?  
Inom organisationen: hur utnyttjas kunskaper och erfarenhet hos involverade projektmedlemmar?  
Utanför organisationen: konsulter, utbildningar...?

- Upplever du att ni har en Lärande kultur inom organisationen där lärande, öppenhet för nya idéer och förändring uppmuntras bland projektmedlemmar? Stöds detta högre upp i organisationerna? Hur ser man på misstag; slöseri eller källa till förbättring och lärande?
- Hur väl fungerar ömsesidigt lärande?  
Detta bygger på tillit och delande av kunskaper, erfarenheter och resurser; hur väl fungerar det?
- Kan problem uppstå av att parter inte vill dela med sig av erfarenheter och kunskap pga. rädsla att informationen kommer att spridas till konkurrenter?
- Har ni metoder för konfliktlösning?
- Hur fungerar arbetet med öppna böcker? Kan det bidra till förbättringsarbete?
- Hur kontrollerar ni att samverkan fungerar och att alla är nöjda? Hur utvärderas samverkan?
- Intra-organisatoriskt lärande: lärande och förbättringsarbete relaterat till partnering inom er egen organisation; har ni rutiner för sådan? Ex. genom en speciell enhet/ person som endast jobbar med partnering-frågor och samverkar olika relationer?
- Har er egen organisation utvecklats vid sidan av samarbetet?

## C. Intervjufrågor till entreprenadföretagen

### ALLMÄNT OM SAMARBETET

- Vilken tidigare erfarenhet av partnering har du och din organisation?  
Hur har dina eller företagets tidigare erfarenheter av samverkan påverkat upplägget av samarbetet?
- Hur upplever ni det generellt att arbeta i strategisk partnering? Jämfört med traditionella arbetsformer?
- Vilka parter ingår formellt i samverkan? (vilka konsulter och underentreprenörer?)  
Hur ser era relationer till konsulter och underentreprenörer ut? Tidigare samverkan, kontrakt, mm.
- Vilka andra relationer inom strategisk partnering känner du till inom ditt företag?
- Vilka var med och tog fram anbudet?
- Hur upplevde du förfrågningsunderlaget och utvärderingen (tydlighet, kostnader för att ta fram anbud, bedömning, mm)?
- Vilka kontrakt har använts? (Ramavtal eller övergripande- samt entreprenadavtal..?)
- Vilken/vilka entreprenadform/er används?
- Vilken/vilka ersättningsform/er används (inklusive bonusar och incitament)?
- Hur ser du på entreprenadform och ersättningsform?
- Planer för framtiden?

### FRÅGOR RELATERAT TILL LÄRANDE OCH UTVECKLINGSARBETE

- Vilka uttalade partnering-processer finns (workshops, facilitator, deklARATION, uppföljning, mm)?
- Vilken syn finns på lärande och utvecklingsarbete inom samarbetet? Hur ser du som entreprenör på det? Upplevs det vara viktiga parametrar för alla inblandade?
- Hur organiseras utvecklings- och förbättringsarbete inom och mellan delprojekt?  
Vilka rutiner och processer finns inom samarbetet?
- Vilka förbättringar har ni utvecklat under samarbetets gång?  
Arbetsprocesser, arbetsformer, nya metoder och rutiner, samarbetet i sig?  
Relaterat till kostnad, kvalitet och tid?
- Vilka nya metoder, processer och lösningar för själva byggprocessen har utvecklats? Hur kom man fram till dessa (Vem, hur?)
- Lärande inom företaget: organisation och processer för detta?
- Upplever du att ni med tiden utvecklat er inlärningsförmåga d.v.s. en förmåga att systematiskt skapa och ändra projektrutiner, och i slutändan driva utveckling av samarbetets management-processer?
- Vilka källor för ny information används för lärande och utveckling?

Inom organisationen: hur utnyttjas kunskaper och erfarenhet hos involverade projektmedlemmar?

Utanför organisationen: konsulter, utbildningar...?

- Upplever du att ni har en "lärande kultur" inom organisationen där lärande, öppenhet för nya idéer och förändring uppmuntras bland projektmedlemmar? Stöds detta högre upp i organisationerna? Hur ser man på misstag; slöseri eller källa till förbättring och lärande?
- Hur väl fungerar ömsesidigt lärande?  
Detta bygger på tillit och delande av kunskaper, erfarenheter och resurser; hur väl fungerar det?  
Kan problem uppstå av att parter inte vill dela med sig av erfarenheter och kunskap pga. rädsla att informationen kommer att spridas till konkurrenter?
- Har ni metoder för konfliktlösning?
- Hur fungerar arbetet med öppna böcker? Kan det bidra till förbättringsarbete?
- Hur kontrollerar ni att samverkan fungerar och att alla är nöjda? Hur utvärderas samverkan?
- Intra-organisatoriskt lärande: lärande och förbättringsarbete relaterat till partnering inom er egen organisation; har ni rutiner för sådan? Ex. genom en speciell enhet/ person som endast jobbar med partnering-frågor och samverkar olika relationer?  
Har er egen organisation utvecklats vid sidan av samarbetet?