



Project Partnering in the Construction Industry: Theory vs. Practice

Ali Hosseini^{1*}, Paulos Windimu², Ole Jonny Klakegg³, Bjørn Andersen⁴, and Ola Laedre⁵

Abstract

Clarification of what partnering is and its practical implications may help the construction industry to achieve the full benefits of this concept. The purpose of this study is to shed more light on how the partnering concept as practiced in real-life projects compares with the way partnering is described in the literature by exploring the hard (formal/contractual) elements of this concept. By this, we aim to identify discrepancies between theory and practice and help clear up the confusion that results from conflicting definitions of partnering. This investigation is based on a literature study and 39 interviews with respondents from 44 construction projects classified as partnering projects. Findings reveal that the discrepancies between theory and practice are remarkable: either the practitioners have misunderstood what partnering entails or the minimum requirements are too stringent and do not reflect the real-life use of the concept. Observation from case projects shows that no partnering hard element is applied in all studied projects. Partnering projects may share the partnering label, but use different sets of hard elements. Partnering can be identified as being present through a range of features, characteristics and interaction behaviors. This concept should be studied as an enacting strategy that can be adopted by various contract models rather than simply as an alternative contract form.

Keywords

Partnering, procurement, relational contract, collaboration

¹ Department of Civil and Environmental Engineering, Norwegian University of Science and Technology, 7491 Trondheim - Norway, ali.hosseini@ntnu.no (corresponding author)

² Department of Civil and Environmental Engineering, Norwegian University of Science and Technology

³ Department of Civil and Environmental Engineering, Norwegian University of Science and Technology

⁴ Department of Mechanical and Industrial Engineering, Norwegian University of Science and Technology

⁵ Department of Civil and Environmental Engineering, Norwegian University of Science and Technology



Introduction

In many countries, there is an increasing interest in promoting collaborative relationships (alliancing, partnering and other forms of relational contracting) in the construction industry (Eriksson 2010, Young et al. 2016). A primary ambition of relational contracting is to avoid the adverse objectives and conflicts that have characterized the industry for too long (Ling et al. 2006). In order to create this type of collaboration, a relationship based on trust between the actors must be established. The literature argues that this can be achieved through relational contracting concepts such as alliancing, joint venture, public-private partnership, partnering and integrated project delivery (IPD) (Lahdenperä 2012).

As one of the institutional forms of collaborative relationship (Rahman and Kumaraswamy 2002, Rowlinson and Cheung 2004, Colledge 2005, Cheung et al. 2006), partnering essentially focuses on improving cooperation within existing frameworks. Partnering separates itself from alliancing and IPD by being a more conservative approach (Walker et al. 2002, Walker and Hampson 2008). Despite partnering, Alliancing and IPD are typically more explicitly incorporated into the contractual structure, and can thus be seen as an *independent* contract model. One of the first definitions of partnering was provided by the Construction Industry Institute (CII) in 1991:

“A long-term commitment by two or more organizations for the purpose of achieving specific business objectives by maximizing the effectiveness of each participant’s resources. This requires changing traditional relationships to a shared culture without regard to organization boundaries. The relationship is based 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” (CII 1991).

The growing popularity of partnering (Hong et al. 2011, Black et al. 2000) has emerged in response to the adversarial culture and high levels of conflict typically associated with the construction industry

(Eriksson 2008). In addition, projects increasingly are more critical and complex than before (Azari et al. 2014), creating the need for closer collaboration. At the same time, construction projects are often associated with low efficiency, mostly due to the significant focus on transactions (Winch 2000). Since these types of projects often experience scope creep, partnering has been found to be a well-suited method to keep costs low and schedules in line. By focusing on relationships rather than transactions, partnering facilitates increased efficiency, avoids conflicts and eliminates adversarial relationships (Naoum 2003, Chan et al. 2010). The use of such measures may also lead to an increase in innovation and thus better products (Barlow 2000, Chan et al. 2010).

Despite having been studied thoroughly for the last few decades, the literature still presents no commonly shared definition of partnering. Many researchers have tried to establish a common definition of the concept, but it has proven to be difficult due to its ambiguous characteristics (Nyström 2005, Eriksson 2010, Aarseth et al. 2012). According to Saad et al. (2002), partnering is largely misapprehended without a unified definition, which results in major problems for successful implementation (Chan et al. 2003, Glagola and Sheedy 2002). In-depth knowledge and understanding of the partnering concept are essential to creating successful collaboration. According to Chan et al. (2003), limited knowledge and experience in the partnering concept influenced the understanding of project contributors about partnership which could cause failure in the project.

The purpose of this study is to shed more light on how the partnering concept as practiced in real-life projects compares with how partnering is described in the literature by exploring the components of this concept. Each partnering project is formed by a set of soft (informal) and hard (formal/contractual) elements. Since soft partnering elements are to a large extent present in all successful construction projects and not limited only to partnering projects, the authors focused on the hard elements without denying the roles of soft elements in reaching the desired outcome. This article explores hard elements and their presence as the most *tangible* components of partnering that could be regulated through contracts in a broad range of cases

executed by different clients. By this, we aim to identify discrepancies between theory and practice and help clear up the confusion that results from conflicting definitions of partnering.

Our study builds on data from construction projects in Norway. Norway is one of the industrialized countries in Europe and can be considered to be the same as other western European countries, and although the scope of this study is limited to exploring partnering projects in the Norwegian construction industry, the data collected within eight different organizations through 44 projects, allow generalization across sectors and the industry.

Methods

In this paper, we combine the essence of presented theory and empirical evidence with new empirical work. This article is based on findings from literature, interviews and 44 case projects in the construction industry. The article maps how the literature on partnering in construction presents this concept by focusing on partnering components. After performing a literature study, case studies were carried out to check the presence of the elements in each case project in order to find a minimum requirement for a project to be labeled as a partnering project. The study was designed according to the recommendations and principles described by Yin (2014) with triangulation of both methods and perspectives to strengthen the analysis.

The literature study, following the prescription of Blumberg et al. (2014), was undertaken to develop the theoretical background for partnering. A combination of journal articles, books, and conference papers was used to get a broad perspective of the current views of the topic. The review was carried out through structured searches in the well-known databases Scopus and Science Direct. The first search was conducted with different combinations of the words “partnering,” “relational contract,” “partnership,” “procurement,” and “project delivery.” This search resulted in many hits, with plenty of irrelevant responses. As a result, the search was narrowed by the additional search words “project partnering,” “concept,” “elements,” “experience,”

“advantages,” and “component.” After establishing the initial database, the selection phase began by reading the abstracts and screening the articles. The 110 original articles that were identified in the first step of the literature review was reduced to 38 articles after rejecting the rest for the following reasons; the article was published in non-refereed journals or is not considered to be reliable academic research (for example, the method section doesn’t describe the data collection methods or analyzing method), the word “partnering” used a different meaning and/or the article was considered not relevant to this study (for example, the word “partnership” was used to define a relationship between industry and universities or the article focused on financial partnership). Although these criteria are to some extent subjective, authors tried to increase the reliability through careful consideration and two rounds of abstract reading.

Selected articles were studied including the references to avoid missing any valuable sources including academic books. The primary content of the remaining articles was analyzed and summarized for the theory section. After studying all references, the authors decided to anchor this section on the work that was performed by Eriksson (2010) because the Eriksson study is one of the most often-cited sources (95 citations according to Google Scholar) that synthesize other work by categorizing different definition of partnering into four different types. These four groups are presented in the theory section.

The empirical portion of the research included 44 case projects within eight different organizations in the Norwegian construction industry. As recommended by Yin (2014), it is essential to select critical cases in order to augment comparison between theoretical argument and empirical data. The case studies were carried out as what Yin (2014) calls “explanatory case studies.” Explanatory case studies prove best adapted to situations where the problem at hand has been previously investigated, and there is an existing theoretical framework. This description fits the situation of partnering within the Norwegian context and is well-suited for multiple case studies. The projects were identified through the authors’ network of practitioners and chosen on the basis of 1) being identified as a partnering project in target



organizations and 2) being executed in the last ten years.

Data collection was accomplished through 39 in-depth interviews with respondents mostly representing the clients' project organizations to triangulate the data collection. All respondents were part of the management team, including the directors of the construction project department, project managers, procurement managers, contract manager, and design consultants. In some cases, one respondent was responsible for more than one project in the target organization (see Table 1), which resulted in having one interview for several case projects. Since respondents were contacted due to the expectation that they would have first-hand knowledge concerning the specific contract and required elements in the case projects, the authors believe this variance in coverage does not influence the outcome of this study.

The projects were executed in different locations in Norway, as a result, some of the interviews were conducted via phone or video conference tool such as Skype. All interviews were semi-structured following the principles described by Corbin and Strauss (2008). The interview procedure was designed to allow the interviewees to talk as freely as possible, supplemented by follow-up questions when needed. During the sessions, a table of identified hard elements was provided for each interviewee, and he/she was asked to prioritize the elements according to their importance to determine which elements were most recommended by practitioners to be included in partnering projects. The goal was to monitor different points of view and compare the results with the most repeated elements found in the literature and case projects. This goal proved difficult to implement due to the interdependency between the different elements and the absence of discussion regarding soft elements. All the respondents were challenged to elaborate on their views and talk freely about their own experiences to investigate the different points of view.

In addition to interviews and literature study, approximately 40 hours of document studies were carried out. In some cases, interviewees sent documents describing their project, contractual documents, project delivery model, incentive arrangements, organization partnering charters and tendering. These documents served as a

supplement to the interviews. Those that were received before the interviews helped the authors to ask the right questions and understand the given answers during the interviews (for example, use of different names for the same elements such as intention/ cooperation agreement).

As part of analyzing the collected data, the authors examined each project and tabulated the hard elements from each case into a matrix to facilitate the following steps: 1) cross-tabulation for the case set to discover any patterns that explained the minimum requirements for a partnering project designation and, 2) identifying the hard elements preferred in practice. Moreover, this matrix was used to compare the empirical data and the conceptual framework developed by Eriksson (2010) in an attempt to provide empirical support for the theoretical predictions.

According to Eisenhardt and Langley, the use of tables and matrices allows the simultaneous representation of a vast number of dimensions, facilitating cross-pattern analysis (Eisenhardt 1989, Langley 1999). Consequently, tables and matrices were chosen as the preferred methods of illustrating data to support evaluation of the data and the development of results.

Based on recommendations from Yin (2014), in order to increase transparency and reliability, all interviews were recorded, transcribed into a written dialog and stored in a case study database together with interview notes and case documents. This database may ease future studies. A summary of target clients, number of projects in each organization, number of interviews and type of organization are presented in Table 1.

Using a combination of literature study and document study was an effective way to gain clear insight into the concept of partnering. With the theoretical background in place, interviews were performed to obtain practical insight. The combination of conceptual argument and practical insight was used in order to illustrate how partnering concepts are viewed.

Table 1. List of Investigated Clients

Client's Name	Organization Sector	Number of Projects	Number of Interviews	Type of Project
Statsbygg	Public	9	8	Public buildings (colleges, theatre, museums)
Entra	Private	3	3	Office building
Sektor	Private	1	1	Shopping centre
Studentsamskipnaden i Oslo og Akershus	Public	1	1	Student housing
Statens Vegvesen	Public	7	7	Road, bridges and tunnels
Undervisningsbygg	Public	5	1	Municipality's school buildings
OBOS Nye Hjem	Private	8	8	Residential buildings
WSP Norge	Private	10	10	Schools, home for the elderly, and multipurpose hall

Theoretical Framework

In this section, the authors present the various purposes of partnering that are discussed in the literature and illustrate the diverse definitions of partnering and their connections to the various purposes. Finally, this section focuses on presenting partnering elements by identifying the importance of the various components to fulfilling the implementation and definition of the partnering concept.

Purpose of partnering

By establishing a good relationship and a “pain and gain sharing” mentality, partnering aims to accomplish a positive environment for the project focused on achieving success for all participants (Naoum 2003). The results of these efforts can be difficult to measure due to interrelated processes and different goals; in addition, differing perspectives make evaluating project success difficult (Barlow et al. 1997). Still, the literature points to several benefits that can be obtained by using a partnering approach. These include less conflict, increased productivity, shorter execution time, more innovation, better cost efficiency, increased flexibility, improved work environment and continuous improvement of quality in results and services (Black et al. 2000, Chen and Chen 2007, Swan and Khalfan 2007, Haugseth et al.

2014). Even though these benefits may be greater in long-term partnerships, project partnering efforts in the public sector have claimed to achieve a 10.5% schedule reduction and 16.3% cost reduction (Thompson and Sanders 1998). Although different percentages can be found in other literature, the actual numbers are not the important point here. As public construction contracts steadily increase in size, increased potential savings will contribute to making the construction industry more viable.

According to the early definition by CII (1991), the implementation of partnering could lead to major benefits in projects: “*Anticipated benefits include improved efficiency and cost-effectiveness, increased opportunity for innovation and continuous improvement of quality of product and services*” (CII 1991). In supporting the CII definition, Bennett (1995) showed that adopting partnering could increase project savings from 2% to more than 10% of the total cost. Larson (1995) analyzed 280 projects in his research, demonstrating that project partnering brings higher performance than traditional procurement methods. Moreover, partnering leads to improved quality of service and earlier completion of the project (Bennett 1995). Other recognized potential advantages introduced with partnering practices include the opportunity for innovation, sharing risk between parties, and dispute reduction (Black et al. 2000, Eriksson 2010, Chan et al. 2010). A list of partnering purposes identified from the literature



Table 2. Partnering Purposes

Benefit	Eriksson (2010)	Bennett (1995)	Larson (1995)	Naoum (2003)	Cheung et al. (2003a)	Chan et al. (2010)
Increase Efficiency	X	X	X	X	X	X
Increase Quality	X	X	X	X		X
Innovation	X	X			X	X
Reduce Litigation / Dispute Resolution	X	X	X	X	X	X
Increase Customer Satisfaction		X	X	X		X
Elimination of Adversarial Relationships	X	X		X		X
Sustainability	X					
Safety Performance	X	X		X		X
Reduce Risk / Risk Shared	X				X	
Enhance Communication						X
Continuous Improvement						X

that rationalize the use of partnering is presented in Table 2.

As shown in Table 2, researchers listed different purposes for adopting partnering in construction projects. This diversity might be the reason behind the confusion around a partnering definition. In the following section, a sample partnering definition is presented and Eriksson’s categorization is elaborated.

Partnering definitions

There are many references in the literature to partnering; Table 3 presents a collection of some of the most-cited definitions. Many authors have developed their contributions to the concept, aiming to mature a widely-accepted definition of partnering. Some studies proved to be too broad and generic, not giving the reader a deeper insight into the issues, while others have focused on the analysis of the partnering details and elements for effective implementation. Some of the definitions consider partnering to be a process while others see it as a means to build trust and develop good

working relationships in the project. This diversity in definitions of partnering may arise from the authors’ different goals when implementing partnering. For example, Cheung et al. (2003a) listed shared risk, reduced litigation, innovation, and increased efficiency as the purposes for his partnering model, which resulted in defining partnering as an attempt to enable non-adversarial working relationships.

Despite all of these efforts, a clear general definition of the concept is still missing (Eriksson 2010). The absence of a consensus on partnering, together with an insufficient understanding of practice development, could increase the complexity for further study and represents a challenge for effective partnering implementation (Bygballe et al. 2010).

According to Eriksson (2010), the different definitions of partnering can be divided into four types. The first type is generic and simple definition, such as the way Chan et al. (2003) define the concept. The second type is developed based on the defined purposes and means to



Table 3. Partnering Definitions

Authors	Definition
Bennett (1995)	A management approach used to achieve business value and increase the efficiency of the construction industry.
Black et al. (2000)	For the creation of effective working relationships.
Børve et al. (2017)	A relationship strategy between major contributors.
Chan et al. (2003)	A framework for improving working relationships between project participants.
Chan et al. (2010)	A process to encourage good working relationships based on commitment, trust, and communication.
Cheung et al. (2003a)	An attempt to enable non-adversarial working relationships.
Cheung et al. (2003b)	A project management approach to improve performance through effective working relationships.
Eriksson (2010)	Cooperative governance based on cooperative procedures in order to facilitate cooperation.
Larson (1995)	Cooperative relationships that enable the creation of a project team with a single set of goals and procedures based on collaboration, trust openness, and respect.
Larson (1997)	Formal management designed to overcome adversarial relationships in projects.
Lu and Yan (2007)	A process, initiated at the outset of a project, that is based on mutual objectives and specific tools (workshops, project charter, conflict resolution techniques and continuous improvement techniques).
Naoum (2003)	A framework based on trust, cooperation, and teamwork.
Nyström (2005)	Trust and mutual understanding as the most important components of partnering will define this concept.
Thomas and Thomas (2008)	An integrated teamwork approach that could lead to the creation of value in projects.
Yeung et al. (2007)	Defined by soft components (trust, commitment, cooperation, and communication) and hard components (formal components, gain-share/pain-share).

achieve them, such as the description of the partnering model by Cheung et al. (2003a). The third type of definition uses Wittgenstein’s family-resemblance concept to define partnering based on seizing the core of partnering by focusing on the components of partnering (Nyström 2005, Yeung et al. 2007). The second and third groups of

definitions have much in common and, although the third group is more comprehensive, both share a similar negative characteristic: they mix apples (procedure) and oranges (outcomes) (Eriksson 2010). The fourth type uses the theoretical aspect of the third group without considering the outcomes. The definition of partnering by Lu and



Yan (2007) fits in the last group because they focus on partnering procedure rather than philosophy (involving trust, commitment, etc.). According to Eriksson (2010), although the last type is the most useful definition so far, it still suffers from the lack of a comprehensive list of components. These definitions suggest the need for deeper insight into

the partnering component in order to define the concept. In the following section, partnering components from the literature are presented, and the Eriksson model is elaborated.

Table 4. Partnering Elements in Literature

Elements	Eriksson (2010)	Bennett (1995)	Bygballe et al. (2010)	Nyström (2007)	Kadefors (2004)	Larson (1995)	Naoum (2003)	Ng et al. (2002)	Yeung et al. (2007)
Trust	X	X	X	X	X	X	X	X	X
Common Understanding		X	X	X	X	X		X	
Collaborative Contractual Clauses	X							X	X
Early Involvement of Suppliers	X		X					X	X
Incentives/Pain/Gain Share	X			X	X		X		
Common Goals	X	X			X	X	X	X	X
Team-Building Activities	X	X	X	X	X	X			
Structured Meeting/Workshop	X	X		X	X				X
Facilitator	X	X		X				X	
Committed Participants		X		X				X	X
Conflict Resolution	X	X		X	X	X	X	X	X
Open and Effective Communication		X		X		X		X	X
Open-Book Economy	X								
Continuous Improvement							X		X
Continuous Joint Evaluation								X	



Partnering elements

Analyzing the literature on partnering reveals that while some authors use similar phrasing, others emphasize that the creation of collaborative working relationships depends on the presence of specific elements. For instance, Larson (1995) formulated a definition of partnering that includes a list of success elements, such as collaboration, trust, openness, and mutual respect. More recently, authors such as Chan et al. (2010), Naoum (2003), Nyström (2005), Lu and Yan (2007) and Yeung et al. (2007) have investigated the relevant elements of partnering. These study results demonstrate that in order to fully understand this concept, a partnering definition cannot be separated from the presented elements. Table 4 shows a sample of partnering elements identified from the literature. As presented in Table 4, some elements, such as trust, common understanding, and conflict resolution mechanisms, are identified by the majority of authors as important elements of partnering. Moreover, according to Eriksson

(2010), elements of partnering could be further classified as core and optional components as illustrated in Table 5. Eriksson believes that elements such as an open-book economy, workshops, common goals, team building, and conflict resolution mechanisms should be clustered as core components due to their position in the creation of a collaborative environment in projects. Table 5 illustrates that not all elements are equally important according to Eriksson.

Additionally, Bygballe et al. (2010) have emphasized the importance of establishing long-term relationships in partnering in order to ensure the creation of trust, common objectives and commitment between participants. However, the effective development of long-term relationships requires the presence of both soft (relational) and hard (contractual) elements in a strategic perspective.

Table 5. Core and Optional Component of Partnering (Eriksson 2010)

Core components of partnering	Optional components of partnering
Bid evaluation based on soft parameters.	Early involvement of contractors.
Compensation form based on open books.	Limited bid invitation.
Use of core collaborative tools. (Start-up workshops, joint objectives, follow-up workshops, team building, conflict resolution techniques)	Joint selection and involvement of subcontractors in broad partnering team.
	Collaborative contractual clauses.
	Compensation form, including incentives based on group performance.
	Use of optional collaborative tools. (Partnering questionnaires, facilitator, joint risk management, joint project office, joint IT tools).
	Increased focus on contractor self-control coupled with limited end inspections.



Table 6. Summary of the Soft Partnering Elements

Soft Partnering Elements	Comments
Mutual objectives	Includes mutual success criteria and respect for individual objectives.
Clients' ability to make decisions	Decisions should be made at the lowest operational level for quick clarification and decision-making.
Team building workshops	Especially in the start-up phase. Workshops should be combined with team building activities and "get-to-know-each-other" activities.
Trust	Includes openness. It is important that project managers do not have hidden agendas and start litigation processes. Trust must be given unconditionally by the client and lived up to by contractor.
Commitment	Both project participants and top management must show commitment to the project and the established goals. Long-term commitment between client and contractor is desired (Yeung et al. 2007) but not possible for public clients.
Competence	Partnering competence is vital in order to establish trust in the project. Success depends on the understanding of the concept of partnering. Construction competence is also important with a view to making the right decisions and choosing the right design.
Communication	Good communication skills and open communication channels. Disputes and conflicts should be solved at the lowest possible organizational level and handled when they occur.
Choosing the right people	Contracting should be based on volunteer group composition. Important to choose the right individuals in the organization from the client as well.

Hard elements vs. soft elements

The literature on managing projects differentiates between hard and soft elements (Yeung et al. 2007, Fotopoulos and Psomas 2009). Elements that are directly regulated by the contract or have their basis in the procurement process are considered hard elements. Those that contribute to the relationship between the people in the project are soft elements (Yeung et al. 2007). Having a real pain/gain sharing mechanism and the use of a legally binding partnering charter make up the most important hard elements. Trust, communication, long-term commitment, and cooperation comprise the most important soft elements (Eriksson 2010). In some cases, hard contractual elements and soft elements overlap, such as conducting a start-up workshop and working together to develop mutual objectives (Yeung et al. 2007). A summary of the soft

partnering elements is provided in Table 6 while a list of identified hard elements are provided in Table 7.

Obtaining benefits from an operative collaboration in projects is not always easy (Chan et al. 2003, Ng et al. 2002, Wøien et al. 2016). Accordingly, Cowan et al. (1992) underlined that adopting partnering in projects could be hard work; therefore, the advantages might not always be achieved. Changing traditional habits and building a collaborative environment in projects requires significant preparation and commitment from all participants. Many authors, such as Naoum (2003) and Yeung et al. (2007), concurred that the absence of a standard agreement constitutes the first issue for partnering implementation. Moreover, Eriksson (2010) argued that, without a consensus on partnering, confusion and ambiguity could arise between the project participants. If this happens, cooperation between the parties, and consequently



Table 7. Summary of Partnering Hard Elements

Partnering Elements	Description	Frequency	
		P	%
Start-up workshops	<i>Start-up workshops</i> , included in most of the projects, are important to establish a common set of procedures and goals for the project as well as lay the foundation for effective working relationships.	37	84%
Partnering based on turnkey/design-build contract	This is the preferred contract model when it comes to applying partnering and is the substitute for having a real partnering contract format. There is a need for a formal contract, and this is the least unfit currently available. If the partnering does not work, the DB contractor takes over.	36	82%
Early involvement of contractors	Involving the contractors' expertise, specifically on constructability, in an early stage of the project can lead to decreased design costs, increased efficiency, finding better solutions and building trust. Most respondents emphasize the importance of early involvement as a fundamental factor in achieving cooperation in projects.	35	80%
Contractual right to replace people	The <i>contractual right to replace people</i> during partnering projects has been established differently in each organization. According to the interviewees, it can be necessary to substitute a person or a firm if they do not act according to the mutual agreement of partnering, but this might leave a gap in project information and knowledge.	34	77%
Functional description	Introducing a <i>functional description</i> as a basis for procurement can lead to better solutions and cost savings. With the exception of one organization (Statens Vegvesen), all procuring organizations used a functional description of the project.	34	77%
Value-based procurement	This item requires proper knowledge and experience from the project participants in addition to a general understanding of partnering idea.	27	61%
Inclusion of architect in partnering group	An architect or consultant can strengthen the partnering arrangement, but the subcontractors often choose not to participate in order to limit their risk.	27	61%
Inclusion of consultant in partnering group		25	57%
Target document (Partnering charter)	A partnering charter could be developed at the start of the partnership or after the selected partner has worked for years (strategic partnering). The charter includes partnering behavior and can act as a guideline for principles. It is likely that some of the cooperation agreement components are repeated in the partnering charter but usually in greater depth.	24	55%
Intention/cooperation agreement	A principal agreement that the project process shall be characterized as recognizable partnering projects. A statement of goodwill.	24	55%
Binding cooperation agreement	Cooperation is the essence of partnering and a basic means of building trust and steering toward targets.	24	55%
Contractual right to replace firms	As stated before, it can be necessary to substitute a person or a firm if they do not act according to the mutual agreement of partnering, but this might leave a gap in the project information and knowledge	24	55%
Open-book economy	Although the realities of "open book" are debated and contested, by using an <i>open-book economy</i> , the client can see where money is spent, and this helps to create more trust and confidence between the parties involved.	23	52%



Table 7 (Continued). Summary of Partnering Hard Elements

Partnering Elements	Description	Frequency	
		P	%
Continuous workshops	Conducting <i>continuous workshops</i> plays an important role in continuous improvement, improving cooperation, implementation of new procedures and ensuring that participants are following the procedures, and monitoring team goals and stakeholders` commitment.	23	52%
Target price with bonus/malus	Most respondents identified target price by sharing bonus/malus as an essential interaction element since this practice gives the contractor a strong incentive to save costs in the project (e.g., pursuing best deals with subcontractors) and to increase productivity. The target cost is established after a negotiation wherein both parties should be content with the pricing of the project and the incorporated risk reserve.	20	45%
Inclusion of SC in the partnering group	As stated, relevant key competencies should be available early in the process (and throughout). If they are key competencies, they should also be in the partnering.	17	39%
Measurement during project	Feedback and continuous measurement is a fundamental element of partnering. Data assists the project manager in understanding whether the project is on track. Effective measurement requires specific measurable targets, available resources, and precise milestones.	15	34%
Prequalification	<i>Prequalification</i> depends in large part on the allocation criteria used in the tender. From the analysis it emerged that the allocation criteria in many cases have considered both price and quality, ensuring that the contractor has sufficient knowledge and capacity to implement the project effectively and efficiently.	14	32%
Final workshop	Despite its importance, the <i>final workshop</i> was introduced only in 14 projects. In most cases, even if a final meeting was planned, the participants downgraded it because of many things to focus on during the completion phase of the project.	14	32%
Conflict resolution mechanism	Although one of the goals of partnering is to talk about difficulties and create procedures before an issue arises and conflict occurs, it is important that disputes be resolved at the lowest possible level, so as not to impact the effectiveness of the project.	13	30%
Operational responsibility of contractor	This item corresponds to the use of Turnkey/Design-Build contracts. Someone needs to be responsible if the partnering does not work, which also works as an incentive for the other parties to contribute to the partnering effects.	8	18%
Co-location of partnering group	The importance of face-to-face communication is emphasized in order to execute a successful partnering project. However, according to some of the case projects, frequent workshops have replaced the need for co-location.	6	14%
Remuneration for accepted offers	The main purpose of the remuneration in partnering is to cover the cost of tendering and pay them for their efforts.	5	11%
Inclusion of SC in bonus/malus		4	9%
Inclusion of consultant in bonus/malus	The inclusion of all parties in a fair bonus/malus system will improve the motivation and promote collaboration.	4	9%
Inclusion of architect in bonus/malus		4	9%



Table 7 (Continued). Summary of Partnering Hard Elements

Partnering Elements	Description	Frequency	
		P	%
Inclusion of a consultant in the partnering contract	Although inclusion of key competence in a partnering group can strengthen the collaboration, it is not common to regulate it into the main contract in partnering arrangement.	1	2%
Inclusion of an architect in the partnering contract	As stated, relevant key competencies should be available early in the process (and throughout); however, most clients include <i>architect</i> and <i>SC</i> in the partnering group but not in the formal contract.	1	2%
Inclusion of SC in the partnering contract		1	2%

the benefits of that cooperation, will be difficult to achieve.

The purpose of this article is to shed more light on how the partnering concept as practiced in real-life projects compares with how partnering is described in the literature by exploring tangible components (hard elements) of this concept. This study focuses on the hard elements in a broad range of cases, executed by different clients. By this, we aim to identify discrepancies between theory and practice and help clear up the confusion that results from conflicting definitions of partnering. and help clear up the confusion that results from conflicting definitions of partnering.

Findings and Discussion

According to Aarseth et al. (2012) and Chan et al. (2003), one of the major challenges for implementing partnering in the construction industry is the lack of agreement on what partnering is and means. In general, the partnering model in the Norwegian environment is still under development, and efforts have been spent to change the culture from adversarial to cooperative. The idea that introducing partnering in projects will provide more overall value for the money and a more rational building process is persuading clients that significant involvement and knowledge engagement are needed in order to gain awareness and implement best practices.

Through the study of the case projects and interviews, we were able to identify the elements⁶ that were most frequently included in the 44 Norwegian construction projects we studied. The results are presented in Appendix 1, which provides an overview of the frequency of elements used by project. In this matrix, the case projects are listed in descending order, displaying those with more elements on the left side of the matrix and those with fewer elements on the right. Partnering elements are listed in descending order by the frequency of use (see Appendix 1). An overview of the Appendix 1 statistics is provided in Table 7, which presents a summary of each hard element, authors' comments and the frequency of each element in studied case projects.

The matrix in Appendix 1 is an important tool to understand how partnering is performed in the Norwegian construction industry; specifically, it shows which elements are more often implemented in projects. The first observation that emerged from Appendix 1 is that there was no single partnering element consistently used in all studied projects. In fact, it is interesting to note that each client adopted basic partnering elements that were entirely different from the other clients. This observation highlights the significant diversity in the ways partnering arrangements are implemented. Surprisingly, only two of the core components of partnering described by Eriksson (2010) appear in the top ten identified elements in Appendix 1. Another conspicuous example is the early involvement of the contractor which, according to

⁶ In this article, "element" refers to "hard element" except otherwise stated in the text.



Table 8. Comparison of Top 7 Elements: Eriksson Theory versus Findings from Case Projects

Partnering elements by Eriksson (2010)	Most Repeated Elements from Cases
Bid evaluation based on soft parameters (Value-based procurement)	Start-up workshop
Compensation form based on open books (Open-book economy)	Partnering based on design-build
Start-up workshops	Early involvement of contractor
Joint objectives	Contractual right to replace people
Follow-up workshops (Continuous workshop)	Functional Description
Team building	Cooperation
Conflict resolution techniques	Contractual right to replace firms

Eriksson, is an optional component, but it was represented in more 80% of the studied projects. Also, according to Eriksson, an open-book economy should be viewed as one of the core components of the partnering project, but almost half of the projects did not use it. Table 8 illustrates the most repeated elements in case project in contrast to Eriksson’s core components.

By reviewing the Eriksson (2010) minimum requirements and applying them to Appendix 1, it becomes clear that only six of the analyzed projects met the requirements underlined by Eriksson. This discrepancy may be related to the different research contexts: this study focused on Norwegian contracting while Eriksson (2010) developed his research based on the Swedish construction industry. As an example, early involvement of the contractor – which as stated earlier is an optional component according to Eriksson, while the respondents in our study clearly demonstrate it to be the most important partnering element – having been used in 80% of the studied projects. This discrepancy could be an indication that successful implementation of partnering will be different in different contexts and environments. However, another explanation may be correct. For example, target cost is stated as a core partnering element by Cook and Hancher (1990) and Black et al. (2000), but it was not used in more than half of these projects. One explanation is that use of the target cost requires a certain level of complexity and uncertainty in order to be advantageous. The findings also show that in addition to facilitating trust and commitment between the parties, using target cost requires a client who is willing to share risk with the contractor during execution. In

projects where the uncertainty is low after initial design and/or the client is not prepared to share the risk during execution with the contractor, a fixed price contract is more suitable than target cost. The interview findings also support this argument, as one of the respondents from client side simply noted, “*Why should [we] take the risk when all the design elements are fixed?*”

Table 9 is generated based on the ranking done by our interviewees when they were asked to prioritize the partnering elements based on their importance for the successful implementation of a partnering project. Although this data provides the respondents’ subjective point of view, the result is illuminating. The authors found it difficult to identify an element with the same weight in the three datasets of literature, respondent ranking, and case projects.

There are several examples of this kind of discrepancy, clearly demonstrating the lack of consistency in partnering and making it harder to find a standard definition of partnering or to establish recommendations for partnering practices in the construction industry. These findings confirm that partnering is characterized by a high level of contingency in different situations and contexts. This aspect further increases the complexity in defining a standard means for implementation (Ng et al. 2002). Some authors also emphasized that the absence of a standard definition could negatively influence the project participants, creating confusion and ambiguity toward partnering practices (Naoum 2003, Yeung et al. 2007, Eriksson 2010).

In general, the Appendix 1 matrix represents a helpful tool to understand how partnering can be



Table 9. Partnering Elements Recommended by Respondents in Priority Order

Rank	Partnering Element	Rank	Partnering Element
1.	Early involvement of contractors	16.	Value-based procurement
2.	Target price with bonus/malus	17.	Inclusion of consultants in bonus/malus
3.	Inclusion of consultants in partnering group	18.	Final workshop
4.	Co-location of partnering group	19.	Target document
5.	Inclusion of sub-contractors in partnering group	20.	Binding Cooperation agreement
6.	Inclusion of architects in partnering group	21.	Intention agreement
7.	Continuous workshop	22.	Remuneration for accepted offer
8.	Functional description	23.	Prequalification
9.	Inclusion of subcontractors in bonus/malus	24.	Inclusion of subcontractors in the contract
10.	Start-up workshop	25.	Inclusion of consultants in the contract
11.	Operational responsibility of the contractor	26.	Inclusion of architects in the contract
12.	Inclusion of architects in bonus/malus	27.	Conflict resolution mechanism
13.	Open-book economy	28.	Contractual right to replace people
14.	Measurement during the project	29.	Contractual right to replace firms
15.	Partnering based on turnkey		

implemented, but it does not show which specific partnering elements must be adopted in projects. It is not possible to recommend specific partnering elements over others without looking at the purpose, situation, and context of the project and the combination of soft elements used to promote the partnering culture in the project.

Furthermore, to cope with this uncertainty, some of the clients operated with a minimum requirement for every project, assuming that a partnering project is a project that includes at least one of the partnering elements. Other elements could then be implemented in the project according to the specific case and situation. According to Bresnen and Marshall (2000), one of the main issues is indeed the decision of the owner to define a best practice for partnering that applies for every case, or whether to customize partnering practices for each project.

Table 10 presents the recommended elements by respondent in this study in contrast to the set of core partnering components described by Eriksson (2010).

An interesting observation from the interviews is that some of the elements that are weighted by

respondents are not repeated in the majority of projects. Examples are the inclusion of a consultant in the partnering group (57%), continuous workshop (52%), target price (45%) and co-location of the partnering group (15%). These findings might imply that implementation of the theory requires more available resources and practice.

The soft partnering elements listed in Table 6 are to a large extent present in all successful construction projects and are not limited only to partnering projects. Some of the elements could be both soft and hard, such as volunteer group composition and mutual objectives (Yeung et al. 2007). Another point to note is, in some cases, the hard elements such as workshops force participants to implement the soft elements, and thereby achieve greater effects. One of our respondents supported this argument by saying: “[we] built up a better relationship [between involved parties in the project] by more meetings and social gatherings.”

At the same time, the soft elements are essential for achieving full benefit in coordination with the hard elements. This means that the hard and soft



Table 10. Comparison of Eriksson’s Theory with Interview Findings

Partnering elements by Eriksson (2010)	Most Recommended by Respondents
Bid evaluation based on soft parameters. (Value-based procurement)	Early involvement of contractors
Compensation form based on open books. (Open-book economy)	Target price with sharing bonus/malus
Start-up workshops	Co-location of partnering group
Joint objectives	Inclusion of consultants in partnering group.
Follow-up workshops (Continuous workshop)	Continuous workshop
Team building	Inclusion of architects in partnering group.
Conflict resolution techniques	

elements are interdependent and that success in partnering can be a result of both, as one of our respondents stated, “*I think [that] belief in collaboration is a key to success, and a piece of paper [referring to the formal contract] does not make any difference when you don’t believe.*”

This result highlights one of the limitations of this study, which focuses solely on the hard elements of partnering. Another interesting finding is that we encountered several projects labeled as partnering with few hard elements present. These projects might have adopted soft elements in order to build a more collaborative environment and benefited from partnering’s advantages.

There are authors who share the idea that partnering could be a procurement choice, framework or set of means, as Naoum (2003) states: “*Partnering is a concept which provides a framework for the establishment of mutual objectives among the building team with an attempt to reach an agreed [upon] dispute resolution procedure as well as encouraging the principle of continuous improvement. This framework entuses trust, cooperation, and teamwork into a fragmented process which enables the combined effort of the participants of the industry to focus on project objectives.*” Nyström (2005) also used soft elements, namely trust and mutual understanding, as core components of his partnering family (all forms of the family have them in common) while he was using Wittgenstein family resemblance concept to define partnering. All of these authors support the idea that partnering might be used as a set of tools rather than a procurement choice to achieve the desired outcome.

Finally, by comparing the elements that have been used in real projects and the recommended elements identified from the literature, the discrepancy is conspicuous. Despite the fact that elements such as the co-location of the partnering group and the inclusion of consultants have achieved a high ranking of importance (see Table 9), these elements were actually implemented in only a few projects. It is important, then, to consider whether application of the theory in practice requires experience, resources, and knowledge, especially when some elements are still new for many of the players in the industry.

Conclusions

The purpose of this paper is to shed more light on the partnering concept by studying the tangible areas (hard elements) of partnering actually implemented in real-life case projects. The need for a univocal definition of partnering is emphasized by our interview respondents. Majority of our respondents stated that nearly all challenges related to the implementation of partnering in projects are caused by different perceptions of what partnering is.

The information provided in Appendix 1 reveals that no partnering element can be considered absolutely required by the studied organization in order to fulfill the label of partnering since there is no single element that was used in all projects. Moreover, it discloses that Partnering projects may share the partnering label, but use completely different sets of hard elements even though they



may share use of the soft elements. We can draw at least three conclusions from this study:

The discrepancy between theory and practice: If one applies Eriksson's (2010) minimum requirements to a partnering project, only six out of the 44 cases deserves the partnering label. This may imply that implementation of the theory requires more available resources and practice.

The discrepancy between practice and practitioners: By comparing the ranking done based on respondents' answers and the most repeated elements in case projects, a clear discrepancy is observed. Although it might present the respondents' subjective point of view, the result is educational.

The discrepancy between theory and practitioners: Table 7 is an example of these differences, clearly demonstrating the lack of consistency in partnering. Partnering is practiced differently even within the same client organizations. The same client can use different partnering elements in different projects and still use the partnering label.

These discrepancies are quite remarkable: either the practitioners have misunderstood what partnering entails or the minimum requirements are too stringent and do not reflect the real-life use of the concept. Probably the reality is somewhere in between, giving an impetus both to academics to define partnering in a manner that enables projects to put it to use and to practitioners to gain a better understanding of the concept before deciding how to implement partnering.

Partnering can be identified as being present through a range of features, characteristics and interaction behaviors. This concept should be studied as an enacting strategy that can be adopted by various procurement methods rather than simply as an alternative procurement method. Therefore, we suggest documentation of features from additional projects identified with the partnering label, by considering both hard and soft elements simultaneously to go one step further toward a unified definition.

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Appendix 1 Hard elements included in the 44 Norwegian construction projects

Element	WSP10	WSP1	University in Bergen	College in Gjøvik	WSP2	Oslo Courthous	Stovner Senter	St. Hanshaug	Tokerud skole	The National Health Archive in	OBO51	College in Sør-	Nordpolen skole	OBO54	WSP4	Equestrian corps	OBO55	WSP5	Hersleb skole	WSP7	WSP8	WSP9	Saemien sjite	Powerhous e Kjørbo	Majorstue n skole	OBO52	OBO53	OBO58	WSP3		
Startup workshop	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Partnering based on turnkey/design-build	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Early involvement of contractors	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Contractual right to replace people	X		X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	
Functional description	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	
Binding cooperation	X	X			X			X	X			X		X	X		X	X	X	X	X	X		X		X	X	X	X	X	
Contractual right to replace firms			X		X				X					X	X	X	X	X		X	X	X				X	X	X			
Inclusion of architect in partnering group	X	X	X	X	X	X	X	X		X	X	X		X	X	X	X	X		X	X	X	X	X		X	X	X			
Continuous workshop	X	X	X	X			X	X			X	X		X				X	X	X	X			X	X						
Value-based procurement	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X					X	
Inclusion of consultant in partnering group	X	X	X	X	X	X	X	X		X	X		X		X	X	X	X	X		X	X	X	X	X			X	X		
Intention/cooperation agreement	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X		X				X			X	X	X			
Target document (Partnering charter)	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X				X	X		X	X				
Prequalification	X	X			X		X		X			X		X	X			X	X	X	X	X									
Open-book economy	X	X	X	X	X	X	X		X	X	X	X	X			X			X				X	X	X					X	
Target price with bonus/malus	X	X	X	X	X	X	X	X	X	X		X	X			X			X				X		X					X	
Inclusion of SC in the partnering group	X	X	X	X	X	X	X	X		X	X		X			X			X		X	X	X								
Conflict resolution mechanism	X	X	X	X	X				X	X		X		X											X	X				X	
Final workshop	X	X	X	X		X				X	X			X									X	X	X			X		X	



Element	WSP10	WSP1	University in Bergen	College in Gjøvik	WSP2	Oslo Courthous	Stovner Senter	St. Hanshaug	Tokerud skole	The National Health Archive in	OBOS1	College in Sør-	Nordpolen skole	OBOS4	WSP4	Equestrian corps	OBOS5	WSP5	Hersleb skole	WSP7	WSP8	WSP9	Saemien sijte	Powerhouse Kjørbo	Majorstuen skole	OBOS2	OBOS3	OBOS8	WSP3	
Measurement during project			X	X		X	X	X	X	X	X	X	X	X		X	X							X						
Operational responsibility of contractor	X				X		X		X				X						X						X					
Remuneration for accepted offer									X		X			X			X											X		
Co-location of partnering group	X		X	X	X		X		X																					
Inclusion of SC in bonus/malus	X	X		X				X																						
Inclusion of consultant in bonus/malus	X	X				X		X																						
Inclusion of architect in bonus/ malus	X	X				X		X																						
Inclusion of SC in the contract								X																						
Inclusion of consultant in the contract								X																						
Inclusion of architect in the contract								X																						



Element	WSP6	OBO56	The Supreme	Täsen skole	OBO57	Kongsgata 51	Astrakryss et bru	Blakstad bru	Hjelvikbrune	Måndalstunnen	Tresfjordbrua	Veg Vikbukt og	Vägstrandtunnen	Pilestredet 30
Startup workshop	X		X				X	X	X	X	X	X	X	
Partnering based on turnkey/design-build	X	X	X	X		X								X
Early involvement of contractors	X	X		X	X	X								
Contractual right to replace people		X			X		X	X	X	X	X	X	X	
Functional description	X	X	X	X	X	X								
Binding cooperation	X	X		X	X									
Contractual right to replace firms		X			X		X	X	X	X	X	X	X	
Inclusion of architect in partnering group	X	X												
Continuous workshop							X	X	X	X	X	X	X	
Value-based procurement	X		X											
Inclusion of consultant in partnering group	X	X												
Intention/cooperation agreement		X	X	X										
Target document (Partnering charter)	X		X											
Prequalification														
Open-book economy			X	X		X								X
Target price with bonus/malus			X	X										
Inclusion of SC in the partnering group	X													
Conflict resolution mechanism														
Final workshop	X													
Measurement during project														



Element	WSP6	OBOS6	The Supreme	Täsen skole	OBOS7	Konggata 51	Astadkryss et bru	Blakstad bru	Hjelvikbrune	Måndalstunnen	Tresfjordbrua	Veg Vikbukt og	Vägstrandtunnen	Pilestredet	30
Operational responsibility of contractor				X											
Remuneration for accepted offer															
Co-location of partnering group															
Inclusion of SC in bonus/malus															
Inclusion of consultant in bonus/malus															
Inclusion of architect in bonus/ malus															
Inclusion of SC in the contract															
Inclusion of consultant in the contract															
Inclusion of architect in the contract															