Partnering; definition, theory and the procurement phase

Johan Nyström

Licentiate thesis
Report 5:64
Building and Real Estate Economics
Department of Infrastructure
Royal Institute of Technology
Kungliga Tekniska Högskolan

Stockholm 2005

Royal Institute of Technology (KTH)
Department of Infrastructure
Building and Real Estate Economics
SE-100 44 Stockholm

Tryckt av Tryck & Media, Universitetsservice US-AB, Stockholm

ISBN 91-975358 - 2 - 6

ISSN 1104-4101
ISRN KTH/BFE/M--05/64--SE

Table of Contents

Preface

The following people should be acknowledged for the development of this licentiate thesis.

- Hans Lind, thank you very much
- Colleagues at Real Estate and Building economics, Royal Institute of Technology
- Ulf Olsson, Seth Jonsson and Hans Cedermark
- Magnus Arnek and Jonas Nyqvist
- My reference group
- The financial support from Vägverket, Banverket and SBUF through CDU
- My Family

Stockholm, January 2005

Johan Nyström

Overview

The concept of partnering has been a much discussed topic in the construction industry for some years and recently more interest has been shown for the concept in Sweden. The most important issue is, all things considered, how to evaluate the partnering. This is however not an unproblematic question. In order to do this a prerequisite must be to understand the concept. This licentiate thesis sets out to fulfil the first step towards assessing partnering by generating an understanding of the concept. The thesis consists of three independent papers about partnering. Together they provide a definition, a theory, an empirical study of the procurement phase and the practitioners' perceptions about the concept. The results will facilitate evaluations of partnering effects and also provide better grounds for decision under which circumstances partnering is appropriate.

The definition of Partnering as a Wittgenstein Family-Resemblance concept

There are numerous definitions of partnering, which can be explained by the fact that partnering projects differ from each other. This article on partnering and family-resemblance makes two contributions to the debate about the definition of partnering in construction. The first is a distinction between general prerequisites, components and goals when discussing the multifaceted concept. In order to understand what is specific about partnering the focus should be on the components, which are identified through a literature review. The second contribution is to apply Ludwig Wittgenstein's idea of family-resemblance to the partnering concept. His idea is that a complex concept can be understood as a network of overlapping similarities. From the literature review it is concluded that there are two necessary components in partnering - trust and mutual understanding - and that a number of different components can be added to form a specific variant of partnering. This provides a new method to define the vague and multi-faceted concept of partnering in a flexible and structured way.

This paper is forthcoming in the journal Construction Management and Economics.

Partnering in a (more) complete contract setting

Partnering is often, by economists, and in construction managerial literature related to more incomplete contracts. This can be explained by seeing partnering as something that neutralizes opportunism. The first contribution in this paper is to question this view, by identifying that the introduction of partnering does not necessarily entail more incomplete contracts. This empirical observation can be explained by the advantages of competitive tendering and further motivated by the requirement from the public procurement law. The second contribution is to motivate partnering in this more complete contract setting, which is done through road maintenance examples. Partnering is seen as a way to facilitate the reaching of more pareto efficient allocations, by lowering transactions costs for renegotiations through trust and reciprocity. Seeing partnering as the willingness to renegotiate complete contracts can reduce the risk for the contractor and lead to lower prices for a given service.

The public procurement phase with partnering and the actors' perception of the concept - results from a questionnaire

This paper has the purpose of empirically mapping out the procurement phase with partnering and investigate how the perception of partnering depend on; age, type of project and whether the respondent is a client or contractor. The partnering flower, from the initial paper above, will also be tested empirically. Data were collected through a questionnaire and consists of 18 Swedish partnering projects from the construction industry, procured with competitive tendering under the Public Procurement Act. Both clients and contractors from the projects responded, summing up to a total of 30 observations. The results show that most projects used incentive contracts with target costs and included soft parameters in the bid evaluation. Concerning the perception of partnering, the concept seems to have most potential in achieving cost reductions. There was also a large consensus among the respondents that partnering did not deteriorate the businesslike relationships nor was a less fun way of working and that the concept has a future in the construction industry. A few major differences could be observed within the divided groups. The clients were more sceptical seeing themselves as winners of partnering, in comparison to the contractors perception on the same subject. Concerning partnering being a more fun way of working the respondents from maintenance projects were not as positive as the respondents from the other types of projects, new-investment and re-investment. It could also be seen that the younger respondents were more positive than the older concerning partnering being a way to resolve conflicts and not seeing the concept just as a fad. Support for the partnering flower could be found in the material since all respondents considered trust and common goals important components of partnering.

The following licentiate thesis has hopefully given a rather good perception of the partnering concept. However, one very important aspect is missing, how to asses this way of working. Does partnering increase the chance of creating more value for money and under which circumstances are partnering appropriate? I intend to approach this issue with further research based on the results from the following three papers.

The definition of partnering as a Wittgenstein family-resemblance concept

Johan Nyström

Stockholm 2005

Building and Real Estate Economics
Department of Infrastructure
Royal Institute of Technology

The definition of partnering as a Wittgenstein family-resemblance concept[α]

Abstract

This article on partnering and family-resemblance makes two contributions to the debate about the definition of partnering in construction. The first is a distinction between *general prerequisites*, *components* and *goals* when discussing the concept. In order to understand what is specific about partnering the focus should be on the components, which are identified through a literature review. The second contribution is to apply Ludwig Wittgenstein's idea of family-resemblance to the partnering concept. His idea is that a complex concept can be understood as a network of overlapping similarities. From the literature review it is concluded that there are two necessary components in partnering - *trust* and *mutual understanding* - and that a number of different components can be added to form a specific variant of partnering. This provides a new method to define the vague and multi-faceted concept of partnering in a flexible and structured way.

Keywords: Partnering, construction, definition, Wittgenstein, family-resemblance, general prerequisites, components, goals.

[α] I would like to thank Hans Lind for his invaluable guidance. Anders Hellström, Magnus Arnek, Abukar Warsame and Jonas Nyqvist should also be acknowledged for their much-appreciated comments. I am very grateful for the financial support from SBUF, Swedish National Road Administration, Banverket (Swedish National Rail Administration) and CDU.

1. Introduction

Although many articles have discussed the characteristics of partnering, there is no consensus about the meaning of the concept. Partnering can be characterised, as a complex and complicated concept where it has been hard to reach an agreement about a standard type of definition. An explanation for the numerous partnering definitions is that the concept is yet to mature (Li *et al*. 2000). If that were the case a definition of partnering - stating the necessary and sufficient conditions - will eventually arise. The first step towards a clearer conception of partnering is probably to realise that such a definition does not exist for this multi-faceted concept.

Still there is a need for a common perception of partnering, since discussions without a mutual starting point often will be cross-purposed and ineffective.

Examples of this are:

1) when different partnering projects are evaluated (given the same measurement of success) what do the evaluators include in the partnering concept, do they refer to the same concept?

or

2) when two people have different opinions about the potential with partnering, are they really talking about the same thing, do they include the same components?

The aim of this article is to present a new method to define partnering. As in earlier studies (see e.g. Crowley and Karim 1995, Matthews *et al*. 1996, Tyler and Matthews 1996, Black *et al*. 2000, Cheng and Li 2001, Cheung *et al*. 2003) the critical success factors of the concept will be determined from reviewed literature. However the first new step is a distinction between *general prerequisites, components* and *goals* of partnering. This distinction will make it clear that when searching for the essence of the concept, focus should be on the *components*. The second step is to apply the philosopher Wittgenstein's idea of family-resemblance when defining the relation between these components and partnering. This approach will generate a method to define different partnering versions within the same structure.

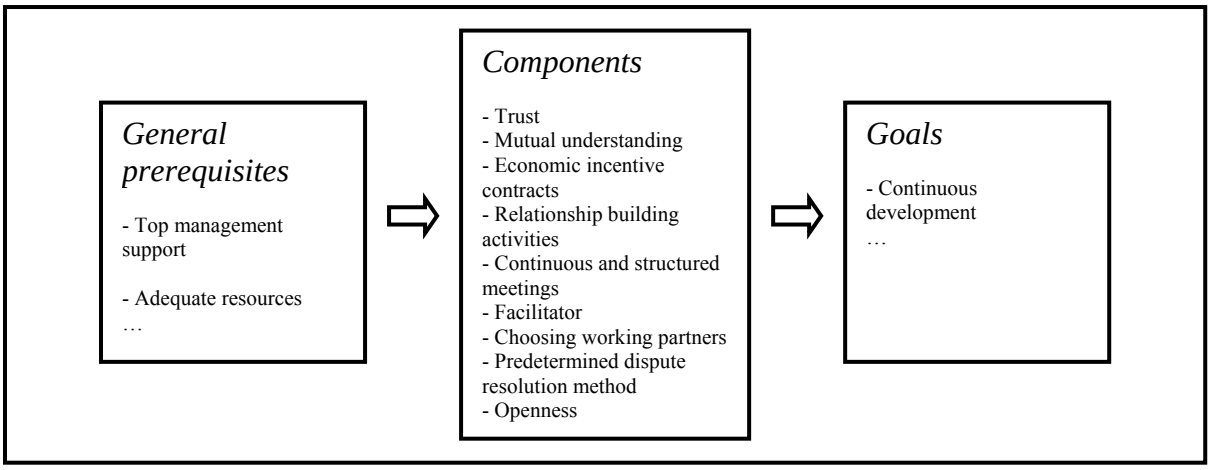
Partnering has been portrayed as both the saviour in the unhealthy construction industry and as another trendy term to describe "common sense" business relations. This article does not set out to assess the strength or weakness of partnering, but only to discuss how partnering can be defined. The approach presented is applicable for both project based and strategic partnering since the literature from which the study is based handles both.

The study begins with emphasizing the distinction between the *general prerequisites, components* and *goals* of partnering. Wittgenstein's idea of family-resemblance will then be introduced and followed by a short presentation of important components mentioned in the partnering literature. The idea of family-resemblance will be used to find a structure among the components. Two examples of how the method can be used and concluding comments on how this approach can be useful will bring the paper to a close.

2. General prerequisites, components and goals

Sorting out the key factors of partnering for the purpose of understanding the concept has been a popular subject in research. This is also initially done here, where the factors in figure 1 are taken from the partnering literature. A closer look at these factors leads to the conclusion that they can be divided into three groups, presented in figure 1.

Figure 1. Distinction of partnering factors



The general prerequisites are factors, which in no sense are unique for partnering. *Top management support* (Barlow *et al*. 1997, Black *et al*. 2000, Cheng *et al*. 2000, Cheng and Li 2001) and *Adequate resources* (Black *et al*. 2000, Cheng *et al*. 2000, Cheng and Li 2001) are probably required in all types of construction projects. Studying these factors does not add to our knowledge about partnering since they are so general.

All things considered the goals of partnering are of course the most interesting thing, the results that we are striving for. In getting there it could be helpful to clarify what partnering consists of, which is not done by studying the outcome. *Continuous development* (Thompson and Sanders 1998, Crane *et al*. 1999, Barlow 2000, Black *et al*. 2000, Cheng *et al*. 2000, Cheng and Li 2001, Kemi 2001, Kadefors 2002, Rhodin 2002, Naoum 2003) should be seen as a desirable outcome of partnering, a goal. Partnering projects might fail and not lead to continuous development, but we would still call it a partnering project if it had a selection the characteristics mentioned under "components" above.

Hence, this article takes *general prerequisites* and *goals* as given and focuses on the *components* in trying to define partnering.

3. Wittgenstein's method of definition

The numerous definitions of partnering indicate how difficult it is to give a concise explanation of the concept. There seems to be no agreement about which specific components should be included and therefore the concept appear hopelessly vague. The German philosopher Ludwig Wittgenstein would disagree, and argue that complicated concepts cannot be defined in the traditional way by stating necessary and sufficient conditions. There might not be a single or a small number of features, which are common for all variants of a term and

therefore it cannot be defined in the traditional way. Instead he argued that there are complex networks of overlapping similarities among the things that fall under a complex concept. His classical example is the term "game". There are a large number of activities characterised as games but he argues that a single, common feature for all of them is missing. Ball games like tennis and football have rules to follow but there are no rules when a boy just throws a ball in the air. Some elements of the ball games, like rules and competitiveness, remains and some fall off, like hard physical work and the ball, when the thought goes to board games. Wittgenstein argues that there is just a complex network of overlapping features without any common characteristic that covers all types of games. This approach to understand a concept came to be called *family-resemblance,* because it resembles the type of similarity that can be found within a family. The daughter in a family could have the "same" nose as her father, while the father and the son has the "same" ears but there is no characteristic common to all members of the family, still there is a bond between them.[1]

Approaching a concept in this manner deviates from the usual way of defining a word. The Wittgenstein method is more flexible since it does not restrict the meaning of a concept to a small number of simple characteristics. Therefore it might be preferable to use this method for understanding complicated concepts that might be looked upon as vague.

4. A presentation of the partnering components

The Wittgenstein approach could appear to be a bit unstructured, as it does not say much about how one should identify the components that is to be included in the network of overlapping features. The strategy here is to start by looking at how often various components are mentioned in descriptions of partnering and then apply the family-resemblance approach to the result of this quantitative study.

Components relevant for understanding partnering have been identified from the leading construction management journals (see Wing 1997). Articles were chosen on the premises that they generally discussed the concept and not just a specific part of partnering. The procedure led to a selection of nine articles in journals ranked by Wing and to broaden the review, another four writings that also deal with partnering in a general way were added. The added writings are two licentiate theses and one research report by prominent and influential researchers of partnering in Sweden. These three writings can be considered the most serious attempts to generally review partnering, which have come out of the Swedish research community. Another often quoted article from a journal not ranked by Wing was also included. Hence, thirteen well-reputed research reports and articles from scientific journals about partnering in construction, mainly found through cross-references, constitute the empirical base of the study. Although consultant- and best practice-reports most likely have had a major influence on the application of partnering, they were judged not to be included since many reports are referred to in the selected articles.[2]

Nine components have been crystallized from the analysed material. The writers do not always use the same terms in describing a feature, but from the reasoning it has been possible to see what was intended. The analysis of the 13 reports and articles led to the result presented in the table 1. An X in the table 1 indicates that the author has mentioned this component as an important part of the partnering concept.

[1] The description is based on Kenny (1975) and Murphy (1991).
[2] An alternative method to find the components would have been to study actual partnering projects.

Table 1. Categorizing the Partnering literature

Papers/Components	Trust	Mutual understanding	Economic incentive contracts	Relationship building activities	Continuous and structured meetings	Facilitator	Choosing working partners	Predeterm. dispute resolution method	Open-ness
Barlow 2000	X	X	X			X			
Cheng et al. 2000	X	X			X	X		X	
Crane et al. 1999	X	X					X		
Kadefors 2002	X	X	X	X	X	X	X	X	X
Kemi 2001	X	X	X	X		X			
Koraltan and Dikbas 2002	X	X			X			X	
Kwan and Ofori 2001	X	X							
Larson 1995	X	X		X	X			X	X
Naoum 2003	X	X	X					X	
Ng et al. 2002	X	X				X		X	X
Packham et al. 2003	X	X	X	X	X				
Rhodin 2002	X	X		X	X	X		X	
Thompson and Sanders 1998	X	X	X	X				X	X
	13	13	6	6	6	6	2	8	4

According to the reviewed literature *trust* and *mutual understanding* are the most important components (compare with Tyler and Matthews, Table A1. in appendix A). The following section will briefly present all components that constitute the "partnering family" in the way that they are usually portrayed in the literature. Then it will be shown how the family-resemblance concept can be applied.

Trust

Various scholars have tried to label different types of trust in business relations, e.g. deterrence-, calculus-, relational- and institution-based trust (Rousseau *et al*. 1998). Another example is the distinction between contractual-, competence- and goodwill-trust (Sako 1992). A distinction can also be made between inter-personal trust and inter-organisational trust (see Kadefors 2004 for a latter type). There are complex relationships between all of the above-mentioned types of trust, which will not be discussed further here.

What can be stated about trust is that it seems to be desirable in all kinds of business relationships because of its negative correlation with transactions costs (Williamson 1975). It is judged to be especially important in partnering since such contracts usually are portrayed as less complete or implies continuous renegotiation. Trust can arise in several different ways. Three alternatives have been mentioned in the literature, it can pre-exist the relationship based on reputation (1), appear spontaneously (2) or develop over time from repeated interactions (3) (Lazar 2000). The usual argument is that it takes time to develop trust, but that might not always be true. Alternative (1) and (2) do not require repeated interactions and can exist even in a single construction project. The client and the contractor might be known as honourable actors on the market (1) and/or project managers from the two parties can find themselves on the same "wavelength" immediately (2). How trust over time (3) develops can be explained in a game-theory setting (Axelrod 1984). A general construction-partnering scenario is assumed to fit the circumstances of a repeated prisoner's dilemma game (Friedland 1990, Cheung *et al*. 2003). The essence of this approach is that trust develops through reciprocal cooperative strategies from both parties (Lazar 1997 and 2000, Cheung *et al*. 2003).

Mutual understanding, "Common goals"

A realistic assumption is that firms aim at maximizing their own profits, at least in a longer perspective. This entails an inherent conflict between the client's and the contractor's goals e.g. as higher revenue for the contractor means higher cost for the client (Himes 1995, Kanaji and Wong 1998, Hamza *et al*. 1999, Pinnel 1999, Naoum 2003). The partnering literature often describes scenarios where win-win solutions are achieved. There is a belief that the individual goal will fulfil a common goal, and this is described as the thought behind partnering (Crowley and Karim 1995, Kadefors 2002). With the above starting point a "common goal" is impossible. What the authors must intend is that in partnering there is a mutual understanding and respect of each other's interests. This understanding and respect makes it easier to reach a compromise in a situation where you realize that the other party's marginal benefit is much higher then your marginal loss - and that it might be the other way around next time. In a functioning partnering relationship the long run consequences of these compromises is higher profits to both parties.

Even if companies are profit maximising and therefore have different economical goals, there can still exist common goals in other respects, like e.g. safety, respect, nice working environment etc. These can facilitate the understanding of each other's interests and are considered as an important part of partnering. The subordinated goals are usually outlined in a partnering charter.

Economic incentive contracts

Generally there are three types of contracts in construction: the fixed-price, the cost-plus contract and the cost-sharing contract. These entail different incentives for a rational contractor, with the former focusing on cutting costs and the next on quality. The cost-sharing contract can be placed in between these two concerning incentives. A deviation from a predetermined target cost is shared by a percentage factor between both parties. This is said to get the contractor to consider both quality and cost (Scherer 1964). Monetary incentives can also be given to other important issues e.g. project duration, quality, safety, technical development, cooperation and less utilization of resources. In these cases the contractor receives a bonus if a predetermined level is exceeded (or underachieved in the case of duration and utilization).

The above reasoning gives the impression that incentives are preferable in all contracts, but it is not necessarily so. There might be conflicts between economic goals and other goals, as has been shown in experimental economics where contracts without economical incentives can yield better outcomes in certain situations (Fehr and Gächter 2002). Other sources for motivation than money are often underestimated (Bresnen and Marshall 2000). Non-financial incentives like personal development, influence, appreciation, a feeling of meaningful assignments etc. can also improve efforts. In fact it has been stressed that intrinsic rewards like the above-mentioned result in better outcomes then financial rewards (Bresnen and Marshall 2000, Kadefors 2002). These intrinsic incentives to work harder are often portrayed as one of the advantages with partnering.

Relationship building activities

The partnering group, with key personnel in the project from both parties and subcontractors, are recommended to meet as soon as possible for the purpose of strengthening the team spirit and getting to know each other (Cheng *et al*. 2000, Humphreys *et al*. 2003). It is generally stressed that the first meeting should preferable be held at a neutral location and have the nature of a social event. Teamwork education could also take place during the

meeting. Getting back from the event, the hopefully well-knitted partnering group can start drafting the subordinated goals in a partnering charter.

Continuous and structured meetings

A common view is that goals should be continuously followed-up if they are to serve any purpose. This is recommended to be done by the partnering group, who also constitutes a forum for problem solving and for ideas of improvements from all levels in both organizations. It can be of importance that the group has mandate to take decisions quickly and thereby obtain a flexible organization (Crowley and Karim 1995).

Facilitator

An external facilitator's role can be described as an impartial discussion leader, who sees to it that both parties get their views heard in a balanced way. His task is also to manage the meeting in such a way that the discussion focuses on the relevant issues and does not get stuck on trivial, unconstructive matters. This governance of the meetings is said to be especially important in the beginning of the relationship (Baden Hellard 1995). It is considered a positive characteristic if the facilitator has experience of partnering and can function as an introducer to the concept on the initial meetings (Stephenson 1996, Kadefors 2002, Rhodin 2002).

Choosing working partners

Since partnering is thought to entail a closer relationship between client and contractor, it is more dependent upon good personal interaction. Therefore it is of great importance that the people working together get along (Kadefors 2002). A successful outcome will be easier to achieve with the participants having an initial positive attitude towards each other and the partnering concept (Crane *et al*. 1999). To get the "right people" in the partnering group, both parties can handpick the suitable staff. If the relationship between representatives for the two parties were not to work, it is recommended to have a predetermined way of how to exchange people in the group.

Predetermined dispute resolution method

Expensive litigations in the American construction industry during the 1980s were common and some argue that the partnering concept originated to avoid the high cost of these litigations (Larson 1995, Gransberg *et al*. 1999, Stephenson 1996).

The predetermined dispute resolution method for partnering is generally supported in the literature (Naoum 2003). Problems usually arise in constructions projects and these can be solved in two ways, either productive or destructive (Mohr and Spekman 1994). Settling a disagreement in court or with an internally designed dispute resolution board can only result in one winner, which characterises a destructive solution. The other way of settling a dispute is to discuss the matter, preferably between the people where the problem arose, usually at the operational level (Bennett and Jayes 1995). Entering a partnering relation is an implicit promise from both parties that they will try to do that in a positive spirit, which hopefully will lead to productive solutions when problems arise.

Openness

It is argued that well functioning partnering relationship entails sharing information between the parties. The knowledge about each other's dilemmas will hopefully facilitate the understanding and make it easier to compromise (Thompson and Sanders 1998). The

information sharing also provides a better possibility to contribute with improvements. Open books seem to be a factor where openness is particularly called for (Bennett and Jayes 1998, Kadefors 2002).

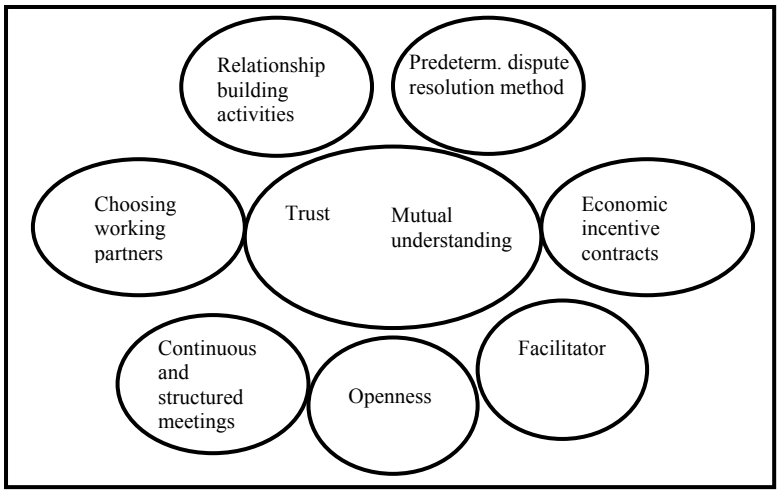
This can be interpreted as a paradox when the partnering relationship is claimed to have a higher degree of trust, which theoretically should be negatively correlated with the importance of open books. Contractors can see this financial monitoring as a lack of trust from the client, which do not initiate a healthy partnering relationship (Humphreys *et al*. 2003). At the same time it can be argued that open books are vital in the beginning of a business relationship as a signal of good will from the contractor when trust does not yet exist.

5. Analysing partnering as a family-resemblance concept

The partnering flower

Looking at the result presented in table 1 it can be seen that there actually are two features mentioned in all the reviewed partnering literature: trust and mutual understanding. These could be interpreted as necessary, but not sufficient, conditions for partnering. This means that a slight change/widening must be made of the family-resemblance theory in order to use it as a method to define partnering. Instead of just having a network of overlapping similarities, there are two common features and beside that an overlapping network of similarities. The resulting analysis of the partnering concept can be described as a "flower", where the centre contains the two common components to all partnering designs. The rest of the components mentioned in the literature can be seen as petals. Something is then to be called partnering if it firstly contains the two centre components and secondly some of the petals, but there is no specific petals or set of petals that they must contain. Adding different sets leads to different variants of partnering. The flower as an entirety can be seen as the base for describing the whole "family" of all partnering variants.

Figure 2. Partnering flower



Application

The structure described above enables a practical application of the somewhat vague concept of family-resemblance. Different designs of partnering projects can be captured within the same structure, which is shown by the following two examples:

The first example is taken from (Kadefors 2002) who described KappAhls service office. The client was KF Real Estate and the contractor was NCC. Beside trust and mutual understanding this partnering relationship included:

- Incentive contracts
- Continuous and structured meetings
- Open books

The variant of partnering is illustrated by the set of components within the dotted line in figure 3.

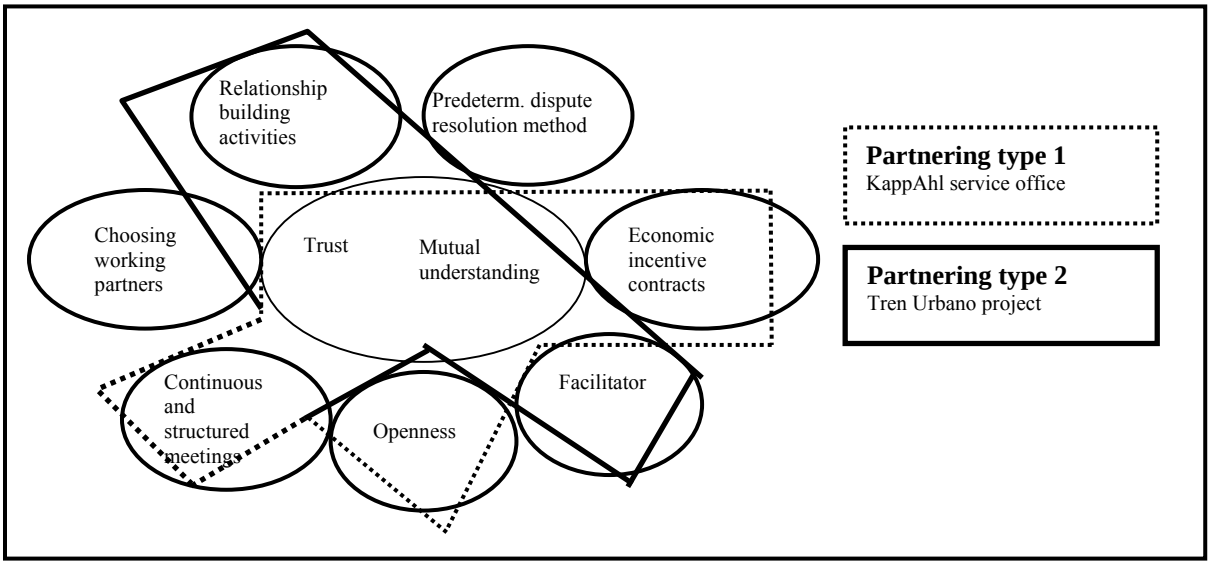
The second example is an infrastructure project, the Tren Urbano project in Puerto Rico, taken from Peña-Mora and Harpoth (2001). The client was the Puerto Rico Highway and Transportation Authority and Siemens Transit Team was the contractor. Again, besides trust and mutual understanding this partnering relationship included:

- Facilitator
- Continuous and structured meetings
- Relationship building activities

This variant of partnering is illustrated by the set of components within the full line in figure 3.

The figure indicates that even though both projects "obviously" are partnering projects they are put together by different sets of "partnering petals".

Figure 3. The applied partnering flower



6. Conclusions

Two contributions have been made in this article. Firstly, it is necessary to distinguish between general prerequisites, components and goals when partnering is analysed. It is concluded that the specific components are the interesting factors when understanding what is unique about partnering. The second contribution consists of seeing partnering as a complex concept and that such concepts are difficult to define in the standard way by giving necessary and sufficient conditions. Instead an approach developed by the philosopher Wittgenstein is introduced, where a concept is understood by looking for a network of overlapping

similarities. This is applied to the partnering literature, where it was found that two components were always included in the descriptions, trust and mutual understanding. Beside these two, there was an overlapping network of the other components.

The two contributions provide a method to define partnering, which can be of use to both the research community and to practitioners. The partnering flower facilitates further research in assessing partnering, as more precise hypotheses can be formulated, e.g. where effects are related to specific variants of partnering and not to partnering in general. Different combinations of the partnering ”petals” can be tested and evaluated. Further research can also look closer at how each specific component can be designed and at the relation between the petals on a more theoretical level: Are certain components more closely linked? Are certain components more difficult to combine?

Practitioners may find the partnering flower useful in the procurement phase of a construction project, both as a description of the concept, if that is needed, and as a common starting point for discussions between the client and the contractor on how to frame a specific partnering project, i.e. which “petals” to include.[3]

[3] There has already been interest shown in Swedish public procurement of construction projects for using the flower as a way to present partnering in the contract documents.

References

Axelrod, R. (1984) *The evolution of cooperation*. New York, Basic Books.

Baden, Hellard, R. (1995) *Project Partnering. Principal and practice*. Thomas Telford, London.

Barlow, J., Cohen, M., Jashapara, A. and Simpson Y. (1997) *Towards positive partnering*. The Policy Press, Bristol.

Barlow, J. (2000) Innovation and learning in complex offshore construction projects. *Research Policy*, **29**(7-8), 973-989.

Bennett, J. and Jayes, S. (1995) *Trusting the team: the best practice guide to partnering in construction*. Centre for Strategic Studies in Construction/Reading Construction Forum, Reading.

Bennett, J. and Jayes, S. (1998) *The seven pillars of partnering: a guide to second generation partnering*. Reading Construction Forum, Reading.

Black, C., Akintoye, A. and Fitzgerald, E. (2000) An analysis of success factors and benefits of partnering in construction. *International Journal of Project Management*, **18**(6), 423-434.

Bresnen, M. and Marshall N. (2000) Motivation, commitment and the use of incentives in partnerships and alliances. *Construction Management and Economics*, **18**(5), 587-598.

Cheng, E., Li, H. and Love, P. (2000) Establishment of critical success factors for construction partnering. *Journal of Management in Engineering*, **16**(2), 84-92.

Cheng, E. and Li, H. (2001) Development of a conceptual model of construction partnering. *Engineering, Construction and Architectural Management*, **8**(4), 292-303.

Cheung, S-O., Ng T., Wong S-P. and Suen, H. (2003) Behavioural aspects in construction partnering. *International Journal of Project Management*, **21**(5), 333-343.

Crane, T., Felder, J., Thompson, P., Thompson, M. and Sanders, S. (1999) Partnering measures. *Journal of Management in Engineering*, **15**(2), 37-42.

Crowley, L. and Karim, A. (1995) Conceptual Model of Partnering. *Journal of Management in Engineering*, **11**(5), 33-39.

Fehr, E. and Gächter, S. (2002) Do Incentive Contracts Crowd Out Voluntary Cooperation? Institute for Empirical Research in Economics, University of Zürich, Working Paper No. 34.

Friedland, N. (1990) Attribution of control as a determinant of cooperation in exchange interactions. *Journal of Applied Social Psychology*, **20**(4), 303-320.

Gransberg, D., Dillon, W.D., Reynolds, L. and Boyd, J. (1999) Quantitative analysis of partnered project performance. *Journal of Construction Engineering and Management*, **125**(3), 161-166.

Hamza, A., Djebarni, R. and Hibberd, P. (1999) The implication of partnership success within the UK construction industry supply chain, in *Profitable Partnering in Construction Procurement*, Ogunlana, S.O., E & FN Spon, London.

Himes, P. (1995) Partnering in the construction process: the method for the 1990s and beyond. *Facilities*, **13**(6), 13-15.

Humphreys, P., Matthews, J. and Kumaraswamy, M. (2003) Pre-construction project partnering: from adversarial to collaborative relationships. *Supply chain management*, **8**(2), 166-178.

Kadefors, A. (2002) Förtroende och samverkan i byggprocessen – Förutsättningar och erfarenheter. Chalmers University of Technology, Göteborg.

Kadefors, A. (2004) Trust in project relationships – inside the black box. *International Journal of Project Management*, **22**(3), 175-182.

Kanaji, G.K. and Wong, A. (1998) Quality culture in the construction industry. *Total Quality Management*, **9**(4-5), 133-140.

Kemi, L. (2001) Funktionskrav och partnering för drift och underhåll av järnvägar. Licentiate Thesis, Luleå University of Technology, Luleå.

Kenny, A. (1975) *Wittgenstein*. Pelican Books.

Koraltan, S. and Dikbas, A. (2002) An assessment of the applicability of partnering in the Turkish construction sector. *Construction Management and Economics*, **20**(4), 315-321.

Kwan, A-Y. and Ofori, G. (2001) Chinese culture and successful implementation of partnering in Singapore's construction industry. *Construction Management and Economics*, **19**(6), 619-632.

Larson, E. (1995) Project Partnering: Results of study of 280 Construction Projects. *Journal of Management in Engineering*, **11**(2), 30-35.

Lazar, F. (1997) Partnering – new benefits from peering inside the black box. *Journal of Management in Engineering*, **13**(6), 75-83.

Lazar, F. (2000) Project Partnering: Improving the Likelihood of Win/Win Outcomes. *Journal of Management in Engineering*, **16**(2), 71-83.

Li, H., Cheng, E. and Love, P. (2000) Partnering research in construction. *Engineering, Construction and Architectural Management*, **7**(1), 76-92.

Matthews, J., Tyler, A. and Thorpe, A. (1996) Pre-construction project partnering: developing the process. *Engineering, Construction and Architectural Management*, **3**(1-2), 117-131.

Mohr, J. and Spekman, R. (1994) Characteristics of partnership success: Partnership attributes, communication behavior, and conflict resolution techniques. *Strategic Management Journal*, **15**(2), 135 – 152.

Murphy, M.A. (1991) No more "What is communication?". *Communication Research*, **18**(6), 825-835.

Naoum, S. (2003) An overview into the concept of partnering. *International Journal of Project Management*, **21**(1), 71-76.

Ng, S.T., Rose, T.M., Mak, M. and Chen, S.E. (2002) Problematic issues associated with project partnering – the contractors perspective. *International Journal of Project Management*, **20**(6), 437-449.

Packham, G., Thomas, B. and Miller, C. (2003) Partnering in the house building sector: a subcontractor's view. *International Journal of Project Management*, **21**(5), 327-332.

Peña-Mora, F. and Harpoth, N. (2001). Effective partnering in innovative procured multicultural project. *Journal of Management in Engineering*, **17**(1), 2-13.

Pinnel, S. (1999) Partnering and the management of construction disputes. *Dispute Resolution Journal,* Feb. 16-22.

Rhodin, A. (2002) Interaktionsprocesser i byggprojekt. Licentiate Thesis, Luleå University of Technology, Luleå.

Rousseau, D.M., Sitkin, S.B., Burt, R.S. and Camerer, C. (1998) Not so different after all: A cross-discipline view of trust. *Academy of Management Review*, **23**(3), 393-404.

Sako, M. (1992) *Prices, quality and trust: inter-firm relations in Britain and Japan*. Cambridge University Press.

Scherer, F.M. (1964) The theory of contractual incentives for cost reduction. *Quarterly Journal of Economics*, **78**: 257-280.

Stephenson, R. J. (1996) *Project partnering for the design and construction industry*. Wiley, New York.

Thompson, P. and Sanders, R. (1998) Partnering Continuum. *Journal of Management in Engineering*, **14**(5), 73-78.

Tyler, A.H. and Matthews, J. (1996) An Evaluation of Definitions and the Key Elements of Partnering. COBRA Conference, Bristol, September.

Williamson, O.E. (1975) *Markets and Hierarchies: Analysis and Antitrust Implications: A Study in the Economics of Internal Organization*. New York, Free Press.

Wing, C.K. (1997) The ranking of construction management journals. *Construction Management and Economics*, **15**(4), 387-398.

Appendix

Tyler and Matthews (1996) have in table A1 identified the common elements in twenty reviewed partnering papers.

Table A1. Key elements of partnering

Elements of partnering	Number of authors
Goals and Objectives	14
Trust	14
Problem Resolution	13
Commitment	12
Continuous Evaluation	7
Group Working / Teams	7
Equity	6
Shared Risk	3
Win-Win Philosophy	3
Collaboration / Co-operation	2

Partnering in a (more) complete contract setting

Johan Nyström

Stockholm 2005

Building and Real Estate Economics
Department of Infrastructure
Royal Institute of Technology

Partnering in a (more) complete contract setting[α]

Abstract

Partnering is often, by economists, and in construction managerial literature related to more incomplete contracts. This can be explained by seeing partnering as something that neutralizes opportunism. The first contribution in this paper is to question this view, by identifying that the introduction of partnering does not necessarily entail more incomplete contracts. This empirical observation can be explained by the advantages of competitive tendering and further motivated by the requirement from the public procurement law. The second contribution is to motivate partnering in this more complete contract setting, which is done through road maintenance examples. Partnering is seen as a way to facilitate the reaching of more pareto efficient allocations, by lowering transactions costs for renegotiations through trust and reciprocity. Seeing partnering as the willingness to renegotiate complete contracts can reduce the risk for the contractor and lead to lower prices for a given service.

Keywords: Partnering, road maintenance, incomplete contracts, renegotiation, reciprocity, pareto efficiency, transaction costs.

[α] I would like to thank Hans Lind, Svante Mandell, Magnus Arnek, Seth Jonsson, Ulf Olsson and the people working with road maintenance in Arvika and Norsjö, especially Lena Björemo. I am very grateful for the financial support from SBUF, Swedish National Road Administration, Banverket (Swedish National Rail Administration) and CDU.

1. Introduction

Partnering between clients and contractors has been a frequent topic in construction managerial journals over the last years (see Naoum 2003 for overview). The majority of them have a positive approach to the concept. This optimism adds to the growing consultancy literature on the subject, which by nature is even more positive. Without much empirical substance the literature indicates that partnering will improve performance in terms of quality, cost and duration within the construction industry (e.g. Bennett and Jayes 1995, 1998). One important question is whether partnering just is a new fad or something that can be given a theoretical explanation from an efficiency perspective.

The contract-theoretical literature discusses relational contracts, which have similar characteristics as partnering. The relational contract, i.e. an incomplete contract based on trust and/or repeated interaction, is often motivated in complex contracting environments. It is expensive to write a rather complete contract in these situations and instead the contract is made incomplete with trust, and/or repeated interactions to neutralize opportunism.

After describing partnering in the construction industry and the ideas in the literature about incomplete/relational contracts, the following theses will be argued for:

1) Partnering does not necessarily entail a more incomplete contract:
   Contracts with partnering procured through competitive tendering and under EU-directives are not more incomplete than then contract types that they have replaced. This means that it is a mistake to identify contracts with partnering as more incomplete contracts as is often done in the literature.

and

2) Partnering can be motivated in a relative complete contract setting:
   Partnering can, when a lot of new information becomes available during the contract period, lower transaction costs and with the help of trust and reciprocity facilitate the reaching of efficient solutions. The key argument is that partnering can reduce the costs for renegotiating the contract when new information arrives.

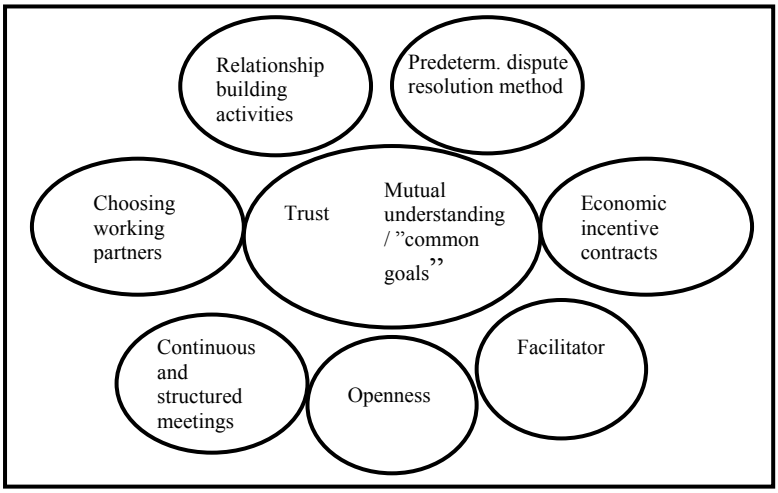
The paper starts off in section 2 with an introduction of partnering in the construction industry. Road maintenance projects are then defined as complex in part 3. Economic theory has suggested that complexity in the contracting environment motivates more incomplete contracts. Partnering is usually portrayed as a more incomplete contract and the theory around these sorts of contracts is presented in part 4. However with competitive tendering and the requirements of the public procurement law it is not obvious that contracts are incomplete, which is explained in section 5. The concept of reciprocity is relatively new in an economic setting and is therefore given a thorough presentation in section 6. This concept is needed to explain the existents of partnering in a more complete contract setting, as done in section 7. Section 8 concludes.

2. Partnering in the construction industry

There are numerous definitions of partnering and despite the fact that they point in a similar direction, there is no consensus of how the concept should be defined. For this multifaceted concept a general definition is problematic, still a common starting point for discussing of

partnering is needed. A possible solution is offered in figure 1 by a flexible but structured definition, based on Ludwig Wittgenstein's family resemblance idea (Nyström 2005a).

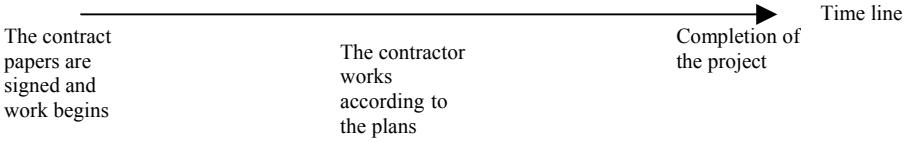
Figure 1. The Partnering flower



This approach is based on a review of theoretical partnering literature where all of the authors consider trust and mutual understanding/"common goals" as important components of partnering. The result has later been supported by an empirical study of 18 partnering projects in Sweden where all the respondents included trust and common goals as the most important components in partnering (Nyström 2005c). Other commonly mentioned components are economic incentive contracts, relationship building activities, continuous and structured meetings, facilitators, choosing working partners, predetermined dispute resolution method and openness. According to the partnering flower, a partnering project always includes trust and common goals, with some additional components of choice.

The main differences between traditional construction projects and partnering projects can be illustrated in a process model. In order to obtain an understanding of partnering, a starting point is taken in the simplified model 1 of a theoretical construction project without partnering.

Model 1. The theoretical construction project



In an ideal world the contractor is appointed through competitive tendering, the contract is signed and the work starts. The project develops according to the contract documents[4] and the contractor gets paid according to the payment plan in the contract.

However, the above model is not a good description of reality, things does not usually run this smoothly (see e.g. Brynhildsvoll 2004). Even in the best of projects there is e.g.

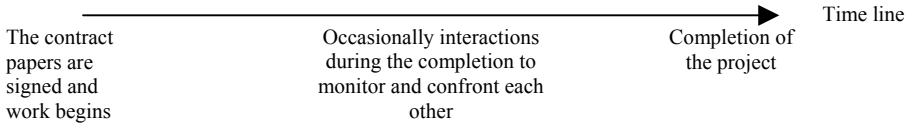
- unclear points in the contract where the contractor sees an opportunity to earn extra money by doing "additional work".[5]

[4] The contract documents are the documents that the contract is procured on, also known as the contract specifications, tendering-, procurement- or enquiry documents.

- points where the client changes his/her mind and wants the contract changed from what was initially ordered.
- points where the parties disagree about what the contract actually says.

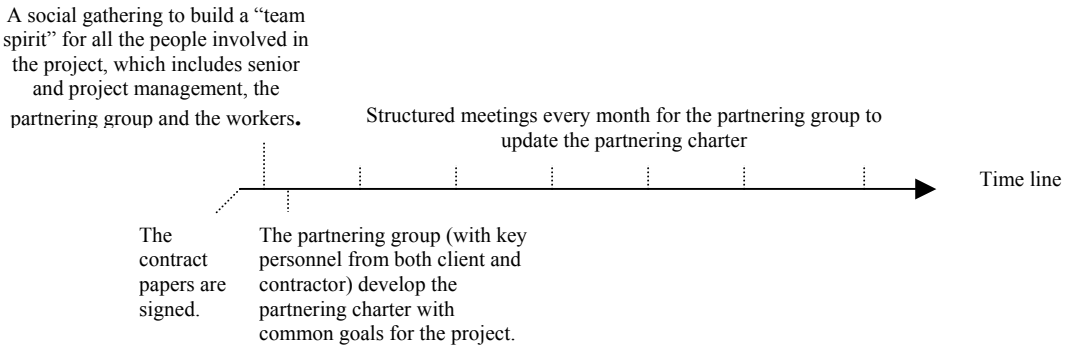
These and other kinds of disagreements needs to be settled so the parties tend to interact with each other. Moreover, the parties also check up on each other with the purpose of monitoring. The contractor wants to make sure that his payment arrives on time and the client wants to know that the project goes according to what is ordered. A suspicious atmosphere characterises many of these interactions, where each party is afraid of being cheated by the other. The following description in model 2 is a more realistic way of description a construction project.

Model 2. The regular construction project



The partnering procedure, within a process model setting, differs from a regular project in the way that it incorporates more positive interaction between client and contractor. Partnering can be characterised as proactive, when the regular construction projects are reactive concerning arising problems. A typical partnering process is described in model 3.

Model 3. The partnering construction project



The purpose of all these interactions can be seen as a way for the client and the contractor to work together towards common project goals. Trust is also incorporated in this process, accompanied by some additional components from the partnering flower. With the meetings etc. it can be assumed that the initial transaction costs are higher for a partnering project in comparison to a traditional project.

There have been some attempts to conceptualise partnering in models e.g. Cheng and Li (2001) and Crowley and Karim (1995). Cheng and Li developed a process model supported by an empirical survey. Crowley and Karim have an organization theory approach and makes

[5] It has been said that the contractors in Sweden make their money from these sorts "additional works" (Grennberg 1998).

the good point that the partnering group can be seen as new organization. However, both their conclusions are somewhat lacking in precision.

Partnering, as used in the construction industry and construction managerial journals, has, to my knowledge, not yet been analysed from an efficiency perspective within a contract-theoretical- or transactions cost setting.

3. Complexity in the contracting environment

Leaving the partnering concept for now, this section will discuss the concept of complexity in contracting environments.

Complexity in the contracting environment has been discussed in a number of articles and been defined in somewhat different ways. Segal (1999) defines complexity as *the number of potentially relevant future trade opportunities*, which means that complexity rises with the number of possible trades in the future. Casadesus-Masanell and Al-Najjar (2001) has another way of defining complexity by not focusing on the number of contingencies but the *number of independent pieces of information* within every contingency. To exemplify Segal's definition, a comparison can be made between purchasing a litre of milk and purchasing road maintenance. The latter is more a complex contracting environment since this transaction includes more aspects to regulate in order to write a complete contract. In other words, there are more aspects to potentially argue or negotiate about in the future. The worst-case scenario in the milk purchase is that the liquid has gone bad, which could be the base of a disagreement. In the road example, there are a lot more issues to argue about, a lot more aspects to regulate and potentially disagree about. These disagreements can be derived both from the fact that the object (the road) is more "complicated" than the milk and that the transaction takes place during a longer time. An example that capture both these issues is that it is hard to evaluate the quality of the asphalt on an existing road - a quality that affects the cost for maintaining the road - since it depends on both the mixing and the body of the road, furthermore the quality reveals itself after a few years. Hence, there are more things to negotiate about in the future concerning the road in comparison to the transaction of the milk.

In the same sense as with the milk example, Milgrom and Roberts (1992) makes the comparison between a contract regarding a wheat transaction and building a power plant. The latter is characterised as more complex because of a lot of things, many of them uncertain, must be taken into account, e.g. how the power plant will affect the environment, changes in demand may happen during construction, etc.

Because of the long duration of the contract, the large number of contingencies and their independent pieces of information, road maintenance projects are hereby considered as more complex contracting environments. These projects will be used as examples throughout the text.

4. Incomplete contracts and partnering

With road maintenance projects being more complex, the contracting literature in economics would suggest a more incomplete contract (Segal 1999). The reason will be explained later, now focusing on the definition of incomplete contracts, which is not obvious.

Arrow-Debreu has a theoretical approach to the distinction between incomplete and complete contracts. This view sees a complete contract as a contract, which regulates what the parties shall do in every possible situation. For a road maintenance contact to be complete, according to Arrow-Debreu, every contingency must have an action and monetary compensation assigned to it. Whatever might occur, from sandstorms to crashing space rockets, must be regulated in the contract, which then would be infinitely long. This sort of contract would be optimal if contracting was costless since it leads to a situation where no risk is taken and thereby nobody can be exposed to opportunistically behaviour. However, the assumption of costlessness is unrealistic and most people would agree that in reality there are no totally complete contracts. Even if we restrict the definition of a complete contract to every relevant contingency (Salanie 1997), it would still be impossible write a complete contract.

The lack of completeness or the existence of incomplete contracts is usually explained by transaction cost; *(i) writing costs, (ii) unforeseen contingencies,* and *(iii) enforcement costs*. This view is built on the initial work of Ronald Coase and further developed by Oliver Williamson. Another way of explaining the existence of incomplete contracts, is to say that contracts cannot be fully complete because of (a) *bounded rationality*, people cannot foresee every relevant contingency, (b) *costly calculations and contracting*, even if all contingencies can be predicted it would be infinitely expensive to negotiate and write them down and (c) *the imprecision of language*, the language is not rich enough to describe everything in such a precise way that a court can enforce it in a predictable way (Milgrom and Roberts 1992 p. 129ff).

However, some economists do not accept this explanation as "rigorous"[6] enough to justify the existence of incomplete contracts (Tirole 1999, Maskin and Tirole 1999, Segal 1999). It has been shown that despite transactions costs, complete contracts can be achieved in certain models. However, very extreme and unrealistic assumptions concerning so-called message games are assumed to attain complete contracts in these models. An example can be seen in Maskin and Tirole (1999) p. 90f, *the example of a game with large penalties*. It is said that agent 2 can challenge agent 1´s announcement about 1´s action set in three ways and any of these challenges entails a large penalty from agent 1 to agent 2. The first way for agent 2 to challenge is by *"exhibiting a feasible action"* (Maskin and Tirole 1999, p. 90, row 8) outside agent 1´s stated action set. Applying this to a road maintenance project means that agent 1, the client, must *ex ante* predict every action that can take place, at least more than the contractor can think of. Otherwise he will be challenged and must pay a large penalty. It is not very likely that a client would enter such a game. Hence, a complete contract in the Arrow-Debreu sense, based on suchlike message games is not feasible in reality.

This paper accepts the "less rigorous" but also more relevant explanations of incomplete contracting theory, the "Williamson view" that all contracts are to some degree incomplete. Thereby, this paper is now dealing with more or less complete contracts, on a more or less continuous scale. Where to draw the line between complete and incomplete on this scale is not obvious and is not was this paper sets out to do. Here it is only presupposed that contracts can be compared and ranked as more or less complete - no absolute scale is needed.

With all contracts being incomplete to some degree, the question is what motivates them to be made more incomplete. The motives for more incompleteness can be derived from the transaction costs mentioned above. Assuming that a more incomplete requires *(i)* less writing

[6] For further discussion on "rigorous" method in economics, see Lind (2003).

and *(ii)* less contingencies to predict, it also costs less to develop. However it is not obvious how the *(iii)* enforcements costs affect the degree of incompleteness in the contract. The reasoning goes as follows; as the enforcement costs rise i.e. the court has a harder time verifying the contract, there is no incentive to waste money on writing a complete contracts that cannot be verified. It has been show that when performance measures are hard to verify, the parties might leave these elements open in the contract (Bernheim and Whinston 1998).

So the motives for incompleteness grow with the transactions costs, ceteris paribus. Returning to what was mentioned in the beginning of this section, complexity adds to these motives. The explanation for this is that complexity makes the complete contract even more expensive because of the growing the number of relevant contingencies to regulate (Segal 1999) and/or it requires more writing under each contingency (Casadesus-Masanell and Al-Najjar 2001).

For example, complex contracting situations motivate a more incomplete contract, when it is more costly *ex post* to tear up and renegotiate, if possible, than to fill in the blanks as we go along. A parallel can be drawn to investment analysis, where it might be smart to wait until the future reveals itself before committing to a non-reversible investment in situations with high uncertainty (Dixit and Pindyck 1994).

However making a contract more incomplete is not just positive, it entails the problem of opportunism. This is defined by Williamson (1975) as *self-interest-seeking with guile*. Making a contract more incomplete exposes both parties to the risk of opportunistic behaviour. There is a trade-off between opportunism and contractual incompleteness, as the incomplete contract is cheaper but entails the risk of opportunism. The use of incomplete contracts creates an incentive to reduce the risk of opportunism, e.g., by some sort of trust, repeated interaction or eventually vertical integration (Grossman and Hart 1986).

A more incomplete contract based on trust and repeated interaction is the relational contract (Macaulay 1963, Macneil 1978). Later the contractual form has been defined as *informal agreements sustained by the value of future relationships* (Baker *et al*. 2002). Another way of saying almost the same thing is focusing *on how repeated interaction and social norms can ensure that obligations between parties can become self-enforceable* (Hviid 2000). The relational contract, in comparison to what Gibbons (2004) call formal contracts, is based upon outcomes only verified *ex post* by a third party, e.g. a court, and not specified *ex ante*. Formal contracts are here seen as regular contracts i.e. fairly complete with specified contingencies *ex ante*, which can be verified *ex post* by a third party. The relational contract is a more incomplete contract, which disregards the task of specifying contingencies and instead focuses on developing a frame on how to handle information as it comes up during the contract. What keeps this implicit contract together can be explained in two ways, or a mix of the two, by repeated interaction and by trust. Repeated interaction is often modelled in a game theory setting. The conclusion in this setting is that both parties realise that there are surpluses to make over a long period by not cheating each other (see e.g. Kreps 1990). Trust is the other way of explaining why the parties do not take advantage of each other with an incomplete contract. Both parties trust that the opposite party for ethical reasons will not use opportunistically behaviour, which is possible with an incomplete contract. In reality there is probably a mixture of moral and economic motives that keeps the contract together. Partnering can be seen as having a lot of the same ingredients as a relational contract, especially the focus on trust and common goals.

To conclude so far, this paper is dealing with road maintenance projects, which are relatively complex. Complex contracting environments motivates more incomplete contracts. To reduce the risk of opportunism, the incomplete contract can be supported by trust and/or repeated interaction in the form of relational contracting or partnering. Along the same line of reasoning, partnering would then be most efficient in a complex contracting environment (Barlow *et al*. 1997, Barlow 2000).

However partnering in the areas studied here - maintenance and also construction projects procured with competitive tendering does not necessarily entail more incomplete contracts. This important statement will be shown in the following section. The explanations suggested above for partnering (relational contracts) need therefore to be modified as the existence of more incomplete contracting is ruled out.

5. The contract's degree of completeness

There is a restriction concerning the degree of incompleteness of the contract by the law about public procurement and from the practice of competitive tendering. This prevents contracts from being too incomplete. Given these restrictions the contract can still be made more incomplete within the boundaries. However, empirical observations indicate that more complete road (and rail) contracts are not made less complete when partnering is introduced. This section will start by discussing the legal and competitive tendering restrictions.

An immediate advantage of partnering has been said to be the avoidance of the transaction cost of tendering (Egan 1998). This view is only applicable to what is called strategic partnering since such contracts, at most, are procured once. All public clients within the EU can only use project partnering since the EU-directives require recurrent competitive tendering, where the lowest or the economically most advantageous bid must be accepted. Even if the law does not require private clients to use this formal procedure of competitive tendering, it is known to exist in this sector as well. The more formal procedure should be chosen when the positive effect of open competition outweighs the transaction costs of organizing the tendering. Hence, both private and public clients apply competitive tendering. Economic theory has approached this problem of finding the most efficient contractor with auction-theory, but this will not be discussed further here (for an overview see Klemperer 1999).

One of the four fundamental principals of the EU-directives concerning public procurement is the principle of transparency (NOU 2002), which requires the contract documents to be rather extensive. The motive is that fair and more objective comparisons between bids then can be made. It would be hard for a client to defend his selection of the winning bid based on a contract document only expressing *road maintenance for five years in a certain area*.

Since the contract is based on the contracting documents, extensive specifications entail more complete contracts but the specifications can still be made less extensive within the requirements of the law. However, it can generally be assumed that projects procured with competitive tendering have more rigid specifications in their contracting documents since the advantages from competition will be greater with better comparisons of the bids. Apart from better comparisons of the offered prices, extensive specifications in the contracting document also facilitate finding the best contractor in terms of quality. It has been shown that there is a

significant positive relationship between quality and formal specifications (Industry Commission, 1996, p. 124).

It is in the rest of the paper assumed that competitive tendering entails relatively complete contracts. This assumption is further supported if the client is a public procurer and must follow the principle of transparency. A comparison can be made with a private client that is not required to use competitive tendering. Assume a strategic partnering contract where construction company X builds their n^{th} restaurant for the private client Y. Company X is assumed to know the needs and preferences of the client. It is more likely that this contract document would consist of *build a restaurant for us at location Z* and that the contract is less complete based on the notion that the contractor X will not cheat, since cheating will end the relationship and the future income.

It has also been observed that partnering projects has been procured with competitive tendering in accordance with the EU-directives many times with roughly the same type of documents as non-partnering projects[7] i.e. relatively complete contracts or anyway not less complete contracts. This is the first important result in this paper, partnering does not necessarily entail more incomplete contracts.

Hence, partnering has been used together with relatively complete contracts, which contradicts the theoretical view of partnering as something incorporated to supplement incomplete contracts against opportunism. From above (section 2) it can be seen that partnering entails more transaction costs in form of more meetings. Theoretically, these added transactions cost are intended to reduce the risk of opportunism in more incomplete contracts. In road maintenance projects, however, the contracts are relatively complete, so what is the purpose of the more expensive concept of partnering? The theoretical implications seem to be that partnering would be uncalled-for in a more complete contract.

The following parts of the paper sets out to motivate partnering in a relatively complete contracts setting by showing different situations where partnering can lead to advantages in a road maintenance projects. In order to accomplish this, the concept of reciprocity has to be introduced.

6. Reciprocity

Human beings do not exclusively care about themselves. Most people would agree with this claim. A possible explanation is reciprocity, which Seabright (2004) defines as, *the willingness to repay kindness with kindness and betrayal with revenge, even when this is not what rational calculation would recommend*. The existence of reciprocity has been shown over and over by experimental studies (see e.g. Davis and Holt 1993).

Reciprocity is theoretically explained in two ways by *(i)* "social preferences" or *(ii)* by intention based reciprocity (Fehr and Schmidt 2002, Dufwenberg and Kirchberger 2004). The first theory branch *(i)* focuses on changing traditional utility functions, so that distributions over outcomes matter. For example: Say that we have two types of commodities (apples and oranges) in a two-person economy. The commodities are given to persons with traditional

[7] For example, The Road Maintenance contracts in Sorsele and Arvika 2003, also Rail Maintenance Harparandabanan 2003 and Trunkline, part 124, 141 and 143 2004.

utility functions, which are strictly growing in each commodity.[8] This indicates that each person only care about his own amount of apples and oranges. Introducing reciprocity to the utility function entails that the persons also cares about the distribution between them.[9] Without reciprocity the utility for person 1 is maximised when he gets all of the apples and oranges. The maximised utility in a function with reciprocity is reached when the distribution of apples and oranges is as equal as possible, or match the social preferences in the best way. This utility function represents people who take other persons well being into account.

However, just looking at distribution with "social preferences" does not necessarily capture the whole meaning of reciprocity. This can be shown by the contradiction in the following example from Fehr and Schmidt (2002).

Assume that we have two ultimatum games (G1 and G2) with two players, the Proposer (P) and the Responder (R). This kind of game only consists of one round i.e. a one shot-game, where the Proposer gives an offer (*a* or *b*, *c* or *d*), which the Responder either accepts or rejects. Assume further that both the Proposer and the Respondent have "social preferences". The games are presented below, with top figure representing the Proposer's payoff and the figure below the Responder's payoff.

Game 1.

The Respondent will "reject" if the Proposer plays *b*, since the distribution is unfair, and thereby neither P nor R will get anything. Only looking at distribution and given the same preferences, R will also reject *c* and *d*, in G2. However in accordance with reciprocity, in the sense of *(ii)* intentions, we must look at what lies behind the bids. From the above definition, reciprocity is repaying a "kind move" with a "kind move". The nicest possible offer in G2 is *d* and this offer should, in accordance with reciprocity, be accepted. But if the intentions are not considered the move will be rejected as explained above.

Another example of this is from Dufwenberg and Kirchsteiger (2004). Which of *D* and *F* in game 2 below is the kindest move? Assume that P initially believes that R will play *d*, which

[8] The traditional utility function, in its simplest additional form, can be expressed in the following way concerning apples and oranges; $U_i(A,O) = A_i + O_i$, where *i* is person 1 and 2, and A, O are amounts of Apples and Oranges.

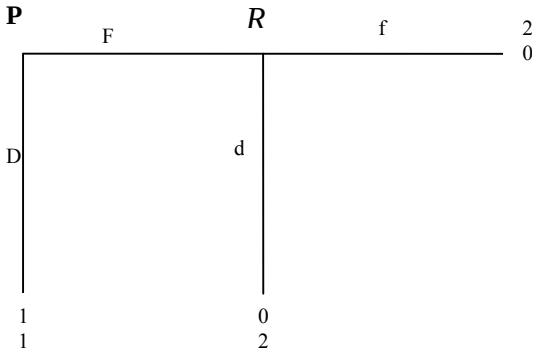
[9] The reciprocal utility function can be expressed in the following way concerning apples and oranges, based on Fehr and Schmidt (1999):

$$U_i(A,O) = A_i + O_i - \alpha_i \max\{(A_j + O_j) - (A_i + O_i),0\} - \beta_i \max\{(A_i + O_i) - (A_j + O_j),0\}$$

with $i \neq j$ and $\alpha_i > \beta_i$ and $1 > \beta_i > 0$. "The coefficient α is the weight on envy or disadvantageous inequality (when $x_j > x_i$) and β is the weight on guilt or advantageous inequality ($x_i > x_j$)" (Camerer and Loewenstein 2003) Where $x_j = (A_j + O_j)$ and $x_i = (A_i + O_i)$.

means that *F* is the kindest move. A kind move from P might however trigger a kind move from R, in this case the move *f*. Hence, this shows that beliefs and intentions behind the moves can play an important role when dealing with reciprocity i.e. they determine where the game will end up.

Game 2.



The problem with the intention-based games is that they focus only on repaying nice behaviour and revenging bad behaviour, neglecting the unfair distributions of outcomes, which also is of interest.

To conclude, reciprocity can be explained in economic terms by
(i) minimizing the differentiation of outcome between individuals i.e. receiving higher utility from a more equal distribution or
(ii) in a game theory setting by always playing lead-follow strategy based on intentions i.e. always repeat a kind action with a kind action and the other way around.

This paper will not restrict itself to either one of the theoretical branches, instead it is noticed that regardless of how reciprocity is modelled i.e. as ethics or based on strategy, the concept correspond well with human behaviour in a number of situations. It is further assumed that introducing partnering will raise the probability of the parties acting in accordance to reciprocity. Reciprocity is of course not exclusive to partnering, but the probability of attaining such behaviour is improved with partnering. An example of this is the initial social gatherings (see Model 3 above), which can be seen as a way to build up reciprocity between the firms and the people involved. The regular and recurrent structured meetings can also be seen as a way of strengthening reciprocity.

7. New information: Motivating partnering in a more complete contract setting

This section sets out to motivate partnering in relatively complete contract settings through stylised examples from road maintenance contracts. The underlying and much realistic assumption is that new information arises during the contract since these contracts are rather long, about five years, and concern complex objects. New information is defined as information not available *ex ante*, i.e. it is not regulated in the contract and can be seen as an external factor that might influence the contract. The types of new information that will be exemplified in this paper are:

- Technology improvements
- Changed demands
- Information about costs for the agreed measures and/or functions

Coase (1960) showed that a pareto efficient point will always be found if there are no transactions cost, later named the Coase theorem. This paper shows that if there are pareto sanctioned improvements to be found with new information, partnering will help to realize them by lowering transaction costs for renegotiation. Partnering will through renegotiations facilitate the reaching of more efficient solutions and also reduce the risk for the contractor, which can lead to reduced prices demanded by the contractor.

For a renegotiation to take place there has to be pareto improvement to extract from this new information, and from future expected cases of new information, otherwise no renegotiations will take place. However there are two kinds of new information, which leads to the distinction between *(i) direct pareto improvements* and *(ii) indirect pareto improvements*. The first kind is characterised as new information, which both parties benefit from exemplified by technology improvements. The second kind of information is only beneficial to one party and necessitates redistribution of surplus to achieve pareto efficiency. This type is exemplified by changed demands and changed information about costs for agreed measures and/or functions.

7.1 Direct Pareto improvements

Let us start off with a very simple example; assume that a publicly owned research centre develops a new snowplough. This innovation is made available to every actor on the market, both clients and contractors. The new snowplough is revolutionizing in the industry, as it is both cheaper and delivers better quality. Assume that the contract specifies what kind of snowplough the contractor should use (a prescriptive contract in contrast to performance contracts) so that a renegotiation is needed before implementing the new snowplough.

The new snowplough and transaction costs

It would be in both parties interest to adopt the new snowplough given that the transactions costs not are too high. The transaction costs can here be exemplified by cost for renegotiations about ways to monitoring the snowplough, and perhaps how the payments should be adjusted etc. There would be no incentive for any party to adopt the new snowplough if the costs of changing the contract exceed the surplus of the snowplough. This is presented by simplified figures in table 1.

Table 1. Regular renegotiation

	Client	Contractor
Surplus from new snowplough	3	5
Transaction costs	5,5	5,5
Total surplus	-2,5	-0,5
Renegotiation	NO	NO

Partnering can be seen as a way to reduce these transactions cost since it is not necessary to strictly monitor each other in a trusting environment, every penny does not have to be turned and every proposal does not have to be questioned. The parties know and trust each other, which make these renegotiations smoother i.e. lower transaction costs. Introducing partnering changes table 1 in the following way:

Table 2. Renegotiation with partnering

	Client	Contractor
Surplus from new snowplough	3	5
Transaction costs	2	2
Total surplus	1	3
Renegotiation	YES	YES

The probability of reaching more pareto efficient solutions increases by introducing partnering as a way to reduce transaction costs for renegotiations.

The new snowplough and noisy observables

In the above example partnering facilitates the reaching of a new allocation where both parties are better off by using the new snowplough. However, just like the Coase theorem, this new allocation does not say anything about the distribution over the surplus. Even though renegotiations are pareto sanctioned, they might be refused by some part due to unfair distribution of surplus. In the above example the contractor will gain a bigger surplus than the client from the new snowplough. Experimental evidence has shown that such renegotiation might not take place, even though they are pareto sanctioned (Fehr and Schmidt 2001). This problem grows with the existence of noisy observable, where parties are prevented from assessing each other's gain from the new snowplough. The incentive for the contractor in table 2 is to signal a lower surplus for the renegotiation to take place.

Partnering is often seen as a closer relationship between client and contractor entailing openness, which can smooth the issue of noisy observables. This will make both parties less suspicious of the other party's signal, which will facilitate renegotiation. An example of this is that the client gets access to the contractor's books.

7.2 Indirect pareto improvements

Now turning to an example were the new information if renegotiated renders in a surplus for one part, while the other loses. Further, the situation is such that a pareto improvement is possible if transfers or redistributions are made.

Assume that it has been reports of deathly car accidents due to bad crash barriers maintenance. This new information has formed a public opinion for improving the barriers, which puts pressure on the client to act. The client would then like to renegotiate a higher standard in a performance contract or more checks on the barriers in a prescriptive contract within the budget restriction. Such a change would lead to a surplus of (5) for the client but a negative outcome of (-2) for the contractor. The positive figure represents the client's, i.e. the public's, value of avoiding deathly accidents, which requires more effort from the contractor, represented by the negative figure. Given these circumstances, the contractor would like to stick with the initial contract. However, there are pareto improvements to be found given that redistribution of surplus can be made ending up in for example 1,5 to each.

Partnering can be seen as a way to smooth this progress of finding the most efficient solution. As mentioned above, partnering facilitates solving the problem with asymmetric information and "noise in the observables", with a more open way of working. Both parties can together evaluate the surpluses and the client does not have to fear that the contractor is demanding an excessive compensation for changing the contract. Theoretically, the parties can end up in (1,5;1,5) by a monetary compensation or by reducing what the contractor has to do in some other respect.[10]

A less costly solution, interpreting partnering as reciprocity, is that the contractor agrees to the (5,-2) proposition i.e. the contractor agrees to better functional levels or more checks on the barriers without compensation. This would in normal circumstances[11] with asymmetric information (moral hazard) render in the contractor slacking on some other assignments (see Holmstrom and Milgrom 1991 on multitasking) to compensate for his loss. However, seeing partnering as something that incorporates a reciprocal thinking, the contractor knows that it is very likely that he will be repaid later given that new information will arise and where renegotiations will be to his advantage. Since the contractor played "nice" in this case he will be repaid with the same behaviour later.

An example of such information, where renegotiation can be to the advantage of the contractor, is when it is realized that clearing the ditches is more expensive than anticipated because of some unexpected characteristics of the ditches. This is an example of new information about costs for the initially agreed upon measures of the clearing the ditches. Assume that the initial contract specifies that this should be done every year. A reduction to doing this every second year would result in a quality reduction of (-1) for the client and a cost saving benefit of (4) for the contractor.[12] Given the prior arrangement concerning the crash barriers – and/or expectations about such situations in the future - the client would, according to reciprocity, agree to this renegotiation of the contract.

---

[10] An interesting question is whether these renegotiations can be questionable from a legal perspective concerning public clients. How much can be changed from the initial contract before a new procurement has to be made.

[11] The contractor would not renegotiate under normal circumstances, but just accept this in order to understand the point!

[12] This is a real example from the maintenance project in Arvika with fictional figures in the text.

Along the same line of reasoning, partnering can also facilitate pareto sanctioned renegotiations where they otherwise would be held back because of unfair distribution of gain (see the snowplough example above). Given that new information arrives with expected equal probability of receiving surplus between the parties, both parties are willing to renegotiate.

7.3 Partnering and risk

From the examples in the section above, partnering could be interpreted as willingness to renegotiate more complete contracts. Both parties enter the project with the intention to renegotiate in order to attain flexibility and also pareto efficient solutions. With this explanation, partnering would entail reduced risk for both parties and in extension lower prices for projects that include partnering, given risk-averse actors. This conclusion about risk is supported by empirical indications (Nyström 2005c).

8. Conclusion

Two points have been made in this paper. Firstly that partnering does not necessarily entail more incomplete contracts, which contradicts the incomplete contracting theory. This is explained by the use of competitive tendering that necessitates more complete specification to be useful i.e. to make good comparisons of the bids. For public clients the law requires this. It has also been observed that the contract documents are not made less rigid when partnering is introduced. Secondly, in this complete contract setting partnering can be motivated when seen as a willingness to renegotiate complete contracts i.e. partnering lowers transaction costs for renegotiation. Partnering can make it rational for one party to accept disadvantageous outcomes with the conception of being repaid later in accordance to reciprocity.

The empirical observation that contracts with partnering are not made more incomplete can be explained by a low marginal gain of making the contract less complete due to standardized contract documents. In a longer perspective there might be a development in the direction of making the contract less complete, with partnering to neutralize opportunism. On the other hand, seeing partnering as the willingness to renegotiate complete contracts would reduce the already low marginal gain of making the contract less complete even more, because the flexibility for dealing with uncertainty is already attained by easier renegotiations. The perception of partnering as a willingness to renegotiate more complete contracts, contradicts Brousseau (1994), who says that due to the high uncertainty in the construction industry, more incomplete contracts are frequent as a way to attain flexibility. This is of course dependent on the definition of incomplete, but what can be seen from the arguments above is that high uncertainty i.e. complexity is not handled by making the contract more incomplete but by creating a structure - the partnering format - that increases the willingness and reduces the costs to renegotiate rather complete contracts.

References

Baker G., Gibbons, R. and Murphy, K. (2002) Relational Contracts and The Theory Of The Firm. *The Quarterly Journal of Economics*, **117** (1), 39-84.

Barlow, J., Cohen, M., Jashapara, A. and Simpson Y. (1997) *Towards positive partnering*. The Policy Press, Bristol.

Barlow, J. (2000) Innovation and learning in complex offshore construction projects. *Research Policy*, **29**(7-8), 973-989.

Bennett, J. and Jayes, S. (1995) *Trusting the team: the best practice guide to partnering in construction*. Centre for Strategic Studies in Construction/Reading Construction Forum, Reading.

Bennett, J. and Jayes, S. (1998) *The seven pillars of partnering: a guide to second generation partnering*. Reading Construction Forum, Reading.

Bernheim, D. and Whinston, M. (1998) Incomplete Contracts and Strategic Ambiguity. *American Economic Review*, **88**(4), 902–32.

Brousseau, E. (1994) EDI and Inter-Firm Relationships: Toward a Standardization of Coordination Processes? *Information, Economics and Policy*, **6**(3-4), 319-347.

Brynhildsvoll, I. (2004) From vertical integration to vertical coordination to achieve professional customer competence, a pre study on road- and railroad building projects in Vägverket and Banverket. Working paper, VTI.

Camerer, C. and Loewenstein, G, (2003) Behavioral Economics: Past, Present, Future in Camerer, Loewenstein, and Rabin eds. *Advances in Behavioral Economics*. Princeton University Press, Princeton.

Casadesus-Masanell, R. and Al-Najjar, Nabil. (2001) Trust and Discretion in Agency Contracts. Harvard Business School Working Paper Series, No. 02-015.

Cheng, E. and Li, H. (2001) Development of a conceptual model of construction partnering. *Engineering, Construction and Architectural Management*, **8**(4), 292-303.

Coase, R. (1960) The Problem of Social Cost. *Journal of Law and Economics*, **3**, 1-44.

Crowley, L. and Karim, A. (1995) Conceptual Model of Partnering. *Journal of Management in Engineering*, **11**(5), 33-39.

Douglas, D. and Holt, C. (1993) *Experimental Economics*. Princeton University Press, Princeton.

Dixit, A. and Pindyck, R. 1994 *Investment under uncertainty*. Princeton University Press, Princeton.

Dufwenberg, M. and Kirchsteiger, G. (2004) A theory of sequential reciprocity. *Games and Economic Behavior*, **47**(2), 268-298.

Egan, J Sir (1998) *Rethinking Construction*. The report of the Construction Task Force, Department of Environment, Transport and the Regions. HMSO, London.

Fehr, E. and Schmidt, K. (1999) A theory of fairness, competition, and cooperation. *Quarterly Journal of Economics*, **114**(3), 817-868.

Fehr, E. and Schmidt, K (2002) Theories of Fairness and Reciprocity - Evidence and Economic Applications. Invited Lecture at the 8th World Congress of the Econometric Society 2000, M. Dewatripont, L. Hansen and St. Turnovsky (Eds.), *Advances in Economics and Econometrics - 8th World Congress, Econometric Society Monographs*, Cambridge University Press, Cambridge.

Grossman, S. and Hart, O. (1986) The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration. *Journal of Political Economy*, **94**(4), 691–719.

Gibbons, R. (2004) Four Formal(izable) Theories of the Firm? Massachusetts Institute of Technology, Department of Economics Working Paper Series, Working Paper 04-34.

Grennberg, T. (1998) Ta bort krökarna i byggsvängen. Torsten Grennberg AB, Saltsjöbaden.

Holmstrom, B. and Milgrom, P. (1991) Multi-task Principal-Agent Analysis: Incentive Contracts, Assets Ownership, and Job Design. *Journal of Law, Economics, and Organization,* **7**, 24-52.

Hviid, M. (2000) Long-Term Contracts and Relational Contracts in B.Bouckaert, G. De Geest (eds.), *Encyclopedia of Law and Economics*, 46-72. Edward Elgar.

Industry Commission (1996) Competitive Tendering and Contracting by Public Sector Agencies. Report No. 48, January, Melbourne, Australian Government Publishing Service.

Klemperer P. (1999) Auction Theory: A Guide to the Literature. *Journal of Economic Surveys*, **13**(3), 227-86.

Kreps, D. (1990) *A Course in Microeconomic Theory*. Princeton University Press, Princeton.

Lind, H. (2003) Rigoröst eller intuitivt - är det vad vi har att välja mellan? *Ekonomisk debatt*, **31**(6), 37-45.

Macaulay, S. (1963) Non-Contractual Relations in Business: A Preliminary Study. *American Sociological Review*, **25**, 55-70.

Macneil, I. (1978) Contracts: Adjustment of Long-Term Economic Relations Under Classical, Neoclassical, and Relational Contract Law, *Northwestern University Law Review*, **72**(6), 854-905.

Maskin, E. and Tirole, J. (1999) Unforeseen Contingencies and Incomplete Contacting. *The Review Economic Studies*, **66**(1), 83-114.

Milgrom, P. and Roberts, J. (1992) *Economics, Organization, and Management*. Prentice-Hall, Englewood Cliffs, NJ.

Naoum, S. (2003) An overview into the concept of partnering. *International Journal of Project Management*, **21**, 71-76.

NOU (2002) A brief description of LOU the Public Procurement Act, in Sweden NOU the National Board for Public Procurement. NOU, Stockholm.

Nyström, J. (2005a) The definition of Partnering as a Wittgenstein Family-Resemblance concept. Forthcoming in Construction Management and Economics.

Nyström, J. (2005c) The public procurement phase with partnering and the actors' perception of the concept - results from a questionnaire. Licences thesis, Royal Institute of Technology, Stockholm.

Salanie, B. (1997) *The Economics of Contracts*. MIT Press, Cambridge, MA.

Seabright, P. (2004) *The company of strangers: a natural history of economic life*. Princeton University Press, Princeton.

Segal, I. (1999) Complexity and Renegotiation: A Foundation for Incomplete Contracts. *Review of Economic Studies*, **66**(1), 57-82.

Tirole, J. (1999) Incomplete Contracts: Where Do We Stand? *Econometrica*, **67**(4), 741-781.

Williamson, O. (1975) *Markets and hierarchies: analysis and antitrust implications: a study in the economics of internal organization*. Free Press, New York.

The public procurement phase with partnering and the actors' perception of the concept - results from a questionnaire

Johan Nyström

Stockholm 2005

Building and Real Estate Economics
Department of Infrastructure
Royal Institute of Technology

The public procurement phase with partnering and the actors' perception of the concept.
- results from a questionnaire[α]

Abstract

This paper has the purpose of empirically mapping out the procurement phase with partnering and investigate how the perception of partnering depend on; age, type of project and whether the respondent is a client or contractor. The partnering flower (Nyström 2005a) will also be tested empirically. Data were collected through a questionnaire and consists of 18 Swedish partnering projects from the construction industry, procured with competitive tendering under the Public Procurement Act. Both clients and contractors from the projects responded, summing up to a total of 30 observations. The results show that most projects used incentive contracts with target costs and included soft parameters in the bid evaluation. Concerning the perception of partnering, the concept seems to have most potential in achieving cost reductions. There was also a large consensus among the respondents that partnering did not deteriorate the businesslike relationships nor was a less fun way of working and that the concept has a future in the construction industry. A few major differences could be observed within the divided groups. The clients were more sceptical seeing themselves as winners of partnering, in comparison to the contractors perception on the same subject. Concerning partnering being a more fun way of working the respondents from maintenance projects were not as positive as the respondents from the other types of projects, new-investment and re-investment. It could also be seen that the younger respondents were more positive than the older concerning partnering being a way to resolve conflicts and not seeing the concept just as a fad. Support for the partnering flower could be found in the material since all respondents considered trust and common goals important components of partnering.

Keywords: Partnering, procurement, empirical study, partnering flower.

[α] I would like to thank Hans Lind, Han-Suck Song, Fredrik Brunes, Seth Jonsson, Ulf Olsson, Hans Cedermark for their constructive comments and my reference group for commenting on the questionnaire. The respondents should also be acknowledged and last but not least the financial support from SBUF, Swedish National Road Administration, Banverket (Swedish National Rail Administration) and CDU.

1. Introduction

This empirical paper on partnering has a three-folded purpose. Firstly, the procurement phase is to be mapped out i.e. collecting information about the procurement process when partnering is included to see if there are any special characteristics in the procurement phase. Secondly, this paper sets out to test certain issues concerning what is generally said regarding partnering and see if the perception of partnering differs depending on age, type of project or whether the respondent is a client or a contractor. Thirdly, the partnering flower presented in Nyström (2005a) is "tested" among practitioners.

The paper starts with a description of the method in section 2. In section 3 the results from the questionnaire are presented. Section 4 investigates differences between groups concerning the answers to selected questions. This section also includes the empirical test of the partnering flower, followed by the conclusions and discussions about further studies in section 5.

2. Method

2.1. Selection of projects

This survey is based on 18 partnering projects examined through a questionnaire. The study started by finding the current population of projects (up to summer 2004) fulfilling the criteria of being procured under the Swedish Public Procurement Act (SFS 1992:1528) (EU directive) in competition with partnering/partnership/collaboration or suchlike mentioned in the contract documents.[13] The public procurer is by the Public Procurement Act required to undertake the lowest bid or the economically most advantageous tender.

The projects were mainly found through contacting well-informed persons associated with partnering. These persons were found from word-of-mouth, articles, conferences etc and included people at the Swedish National Road Administration (SNRA), Banverket (Swedish National Rail Administration), different municipalities and the larger construction companies in Sweden. From the suggested projects, some were excluded because of not fulfilling the established criteria. The method cannot exclude that projects were missed, but the risk is reduced because of the rather small size of the Swedish construction industry.

2.2. The questionnaire

The questionnaire consisted of the following three parts,
Part (1) facts about the respondent and the project,
Part (2) the procurement process and the contract documents, and
Part (3) the respondents' perception of partnering.

The questionnaire was built to fulfil the three purposes mentioned above and differed somewhat in design between client and contractor. This differentiation was made to adapt the questions according to what the respondent could be expected to have knowledge about. The client version had 42 questions and the contractor version had 41 questions, where six of them

[13] The contract documents are the documents that the contract is procured on, also known as the contract specifications, tendering-, procurement- or enquiry documents.

were unique for the client and five for the contractor i.e. 36 questions were common. The contractor version had five open questions, eleven semi-open questions with the opportunity to express themselves freely under the alternative "others" and 25 closed questions. In comparison, the client had three open, 15 semi-open and 24 closed questions.[14]

Part 3 included statements about partnering, which the respondents were to take a stand on. There were also an additional part were the respondents had the opportunity to express themselves freely on partnering.

All material from the questionnaire is not used in this paper, since some information turned out to be superfluous.

2.3. The respondents

It was not obvious who was the most suitable person to answer the questionnaire within each organisation, since most organisations differ. The optimal respondent should be familiar with both the procurement stage and the day-to-day work in the project. Although the term "project manager" has different meaning in different organisations, this position was initially asked for when contacting the organisations. However, the questionnaire was not tied to the title and the aim was to find the most suitable person to answer the questions. This searching process was conducted through the telephone. Usually a respondent was found from one part of the project and this person then referred to his counterpart in the other organisation.

2.4. Interpretation

There is always a risk of misinterpretation in a questionnaire. In order to reduce this risk the questionnaire was reviewed and tested by a number of people familiar with procurement process and partnering before it was sent out. However clearness is not always possible when dealing with complex issues. When a risk of misinterpretation has been found afterwards, by the author or by the respondent, it will be commentated on in the presentation of the results.

3. Results

This section will present the result from the questionnaire on both project level, consisting of totally 18 observations, and individual level, consisting of totally 30 observations. The presentation will follow the questionnaire structure and conclude with the separated questions for clients and contactors.

It will be indicated when the answers from client and contractor within the same project differ on fact-based questions.

3.1. Response rate

[14] See appendix 3 and 4 for the questionnaires. English versions are available on request.

The survey was conducted through 36 postal questionnaires to both clients and contractors with 30 replies after a number of reminders per e-mail and/or phone, which gives a response rate of 83 %. In twelve of the 18 projects, answers were received from both client and contractor. The remaining six projects only had one respondent, summing up to 17 contractors and 13 clients.

This response rate must be considered good so there are reasons to believe that the results give a reasonably indications.

3.2. Part 1, Facts about the respondent and the project

Out of the 30 respondents, three were women. The ages of the respondents were distributed as shown in table 1.

Table 1. Age of respondents

Age	
<25	0
25-30	1
31-40	4
41-50	11
51-60	11
60<	3

The clients in this survey consist of Swedish National Road Association (SNRA), Banverket (Swedish National Rail Association), Municipalities and Governmental owned housing-companies (GOH-C).[15] The contract fees were between 166 million SEK and 10 million SEK One project with a county council was also included but no answer was received. The client responders were distributed among the types of projects in the following way.

Table 2. Type of project and clients

Type of project	**SNRA**	**Banverket**	**Municipalities**	**G O H-C**	**Total**
Maintenance	2	2	6	0	10
New- investment	3	0	0	3	6
Re-investment	0	1	0	1	2

Partnering has been described as most beneficial in complex projects (Barlow *et al*. 1997, Barlow 2000). The respondents were asked to determine the complexity of their project in comparison to other projects of the same type (see table 2 for types). As can be seen in table 3, many respondents interpreted their project as more complex than a regular one.

Table 3. Complexity of the project

Degree of complexity	
More complex	13
Average	11

[15] See Appendix 1 for more detailed description of the studied projects.

Less complex	2
No opinion	4

The knowledge about the other party *before* the contract can be interpreted in two ways. First that is a necessity for going into to a partnering contract and secondly that it helps when building up a trusting relationship. To investigate this further the following two questions were asked.

Table 4. Experience of the opposite party

Have your organisation worked with the opposite part earlier	
Yes	11
No	4
Different opinion between client and contractor	3

Table 5. Knowledge of the opposite party

Do both parties have a good knowledge about each other's organisations and the people within it	
Yes	16
No	0
Different opinion between client and contractor	2

The result showed that in most cases the organisations have worked together previously and have good overall knowledge about each other.

The Swedish construction industry has generally three types of specifications for projects, total[16], prescriptive and performance. The specifications regulate the responsibility in the projects. In the total type, one contractor has the responsibility for both planning and delivering. This type of specification is often supported by so-called ABT[17] conditions. ABT and also AB[18] is a set of specialized conditions for the Swedish construction industry, accepted and developed by both clients and contractors. With the prescriptive type of specification, the client has responsibility for planning and the contractor for the work. AB often supports this type of specification. With the performance specifications, the client has formulated function claims for the object that the contractor shall deliver but is free to choose the method for delivering the functions. These projects are usually supported by ABT conditions. The specifications differ somewhat in meaning depending on project type and therefore the result will be presented according to project type in table 6. Most of the projects in this study used the total type of specifications.

[16] Also known as Design and Build contracts.
[17] General conditions of contract for building, civil engineering and installation work performed on a package deal basis. Translation taken from The Construction Contracts Committee.
[18] General conditions of contract for building, civil engineering and installation work. Translation taken from The Construction Contracts Committee.

Table 6. Type of specification

Type of specifications	Maintenance	New-investment	Re-investment	Total
Total	3	5	1	9
Prescriptive	1	1	1	3
Performance	3	0	0	3
Other	0	0	0	0
Different opinions between client and contractor	3	0	0	3

It should also be noticed that these specifications are often mixtures of each other e.g. pure performance contracts only exists theoretically since all functions do not have proper measurements. The three performance projects above can be interpreted as having a higher degree of functions claims in their specifications.

Concerning the condition documents most of the contracts used ABT 94, for the same reason as above this result is presented on type of project level.

Table 7. Type of conditions

Type of conditions	Maintenance	New-investment	Re-investment	Total
AB 92	2	1	1	4
ABT 94	4	5	1	10
ABFF 99	2	0	0	2
Other	2	0	1	2

It is not obvious how the introduction of partnering will affect the amount of bids. The clients were asked for their opinions and as can be seen in table 8, they did at least not expect fewer bids.

Table 8. Tenders

Statement to clients	More	Approximately the same amount	Fewer
How many tenders/bids did you expect	6	7	0

Another interesting issue is how the introduction of partnering affects the level of bids. An indication can be made by comparing the accepted bid with the clients' own budgets. No real trend could be seen from the answers, presented in table 9.

Table 9. Bid in comparison to budget

Statement to clients	Higher	Approximately equal	Lower	No answer
How did the accepted bid lie in comparison to your own budget	5	3	4	1

Since partnering is a relatively new concept in the Swedish construction industry it might entail some uncertainty when leaving bids i.e. it is harder for the contactors to calculate a contract document when partnering is included (Olsson 2003). From this indication there are reasons to believe that partnering would entail wider distribution among the received bids. From the clients perspective no such support could be found.

Table 10. Distribution of bids

Statement to clients	Yes	No
Was the distribution of bids wider in comparison to a contract without partnering	4	9

3.3. Part 2, The procurement process and the contract documents

The clients were asked about their motives for introducing partnering, with the answering alternatives taken from the literature and the general debate on partnering. On this multivariable question the 13 clients answered in the following way.

Table 11. The clients' motives for partnering

Motives for partnering	
Get more out of the project for the same amount of money	10
Make way for a better collaboration environment	10
Secure quality	9
Learn from the contractors	8
Save money	7
Flexibility	6
Avoid/prevent disputes	6
Become more well-informed about the contractor	3
Other	3
Get a better contact with the contractor's contractors.	1
None, decided from above in the organisation	0

In the contracting documents partnering can be presented as *a possible way* or as *the only way* of doing the project. The result shows that in the majority of the studied projects, partnering was described as the only alternative.

Table 12. Partnering settled or a possibility

Was partnering settled as the way of working or was it described as a possible way of working in the contract documents	
Settled	11
As a possibility	7

In the cases where the concept was presented as a possibility, it was further asked what would make either of the parts reject partnering. The majority of the respondent answered that they would reject partnering because of other reasons than given alternatives.

Table 13. Rejection of partnering

Reasons for rejecting partnering	
My organisation does not have enough experience	0
The opposite organisation does not have enough experience	2
Responsible persons with the opposite organisations are not suitable for partnering	3
Other	5

One of the projects rejected the possibility of partnering after the procurement phase. The two observations from this project answered "Other" reasons than given alternatives in table 13, commenting that this decision was taken at a higher level in the client organisation.

There are examples of partnering projects that has not been working well. Is this something that is handled in the contract documents with a clause for annulling partnering? Most of the projects did not comment on this in the contracting documents.

Table 14. Annulment of partnering

Did the contract documents include an opportunity to annul the partnering collaboration and continue the projects without partnering	
Yes	4
No	7
Different opinion between client and contractor	4
No answer	3

One question concerned how detailed partnering was described in the contract documents.

Table 15. Description of partnering in the contracting documents

How was partnering described in the contract documents	
Very detailed	4
Rather detailed	6
Overall description	11
Only mentioned, for constructor to describe	6
No description, only mentioned	3

This is a subjective question, as the term ”detailed“ was not defined. The result indicates that the clients usually described the concept in a rather general well. An interesting observation was that only in 3 out of the total 18 projects did the client and contractor agree to which degree partnering was described.

In table 16, it is shown that three projects were clear about having an information meeting about partnering.

Table 16. Information meeting

Was there an information meeting about partnering	
Yes	3
No	8
Different opinion between client and contractor	3
No answer	4

An incentive contract, with a target cost has a predetermined percentage factor, which indicates how a deviation from the target cost, both positive and negative, will be divided between client and contractor. The theoretical motive for this type of contract is to give the contractor an incentive to considerate both cost and quality (Scherer 1964). From table 17 it can be seen that even though target cost contracts dominated, partnering was also used with fixed price contracts.

Table 17. Type of contract

Type of contract	
Cost plus	0
Fixed-price with adjusting quantities	2
Fixed-price without adjusting quantities	3
Target cost with incentives	13

The contracting documents were clear under which circumstances the target cost should be raised in nine of the 13 projects with incentive contracts.

Table 18. Raise target cost

Was it evident what circumstances would raise the target cost	
Yes	9
No	2
Different opinion between client and contractor	2

Since this survey is dealing with public clients, it is interesting to see how a possible reduction in costs below target price will be spent. In two of the projects, the contractor knew how the client would spend their share of an eventual surplus.

Table 19. Client spending of surplus

Was it clear how a possible surplus would be spent by the client	
Yes	2
No	9
Different opinion between client and contractor	2

The contract can also include other monetary incentives than target costs in the partnering contract, e.g. concerning project duration, quality, safety, technical development, cooperation and reduced utilization of resources. Five projects included such economical incentives/bonuses besides incentives on target cost.

Table 20. Incentives/bonuses

Was there any economical incentives/bonuses (besides incentives on target cost)	
No	13
Yes, consisting of	5
Time	1
Security	0
Other	4

A clear majority of projects in this study used soft parameters when evaluating the bids i.e. factors such as management, qualification/experience, quality, environmental working etc.

Table 21. Soft parameters

Was soft parameters included in the evaluation of the bids	
Yes	17
No	1

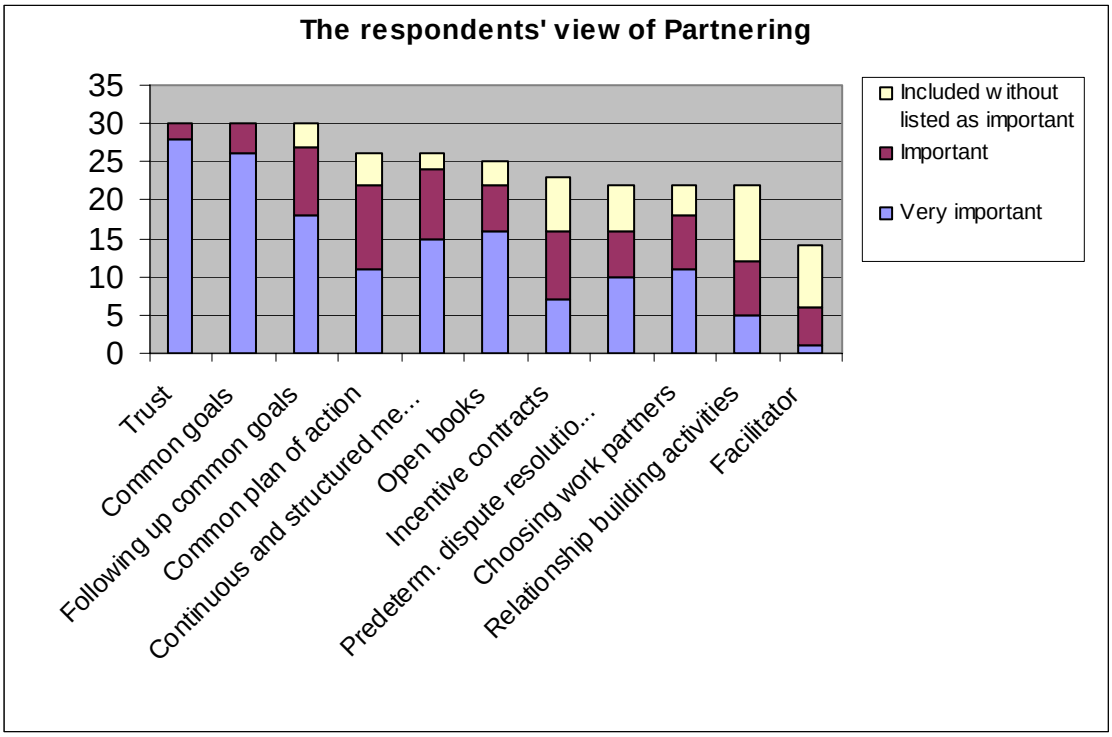
The weight of the soft parameters compared to the price differed from 3 to 95 percent, with a mean value of 28 percent.

3.4. Part 3, The respondents' perception of partnering

Partnering is a multifaceted concept, which has numerous definitions. To test the respondents' view of partnering, a number of components were listed. The responders were then to include the components or not and also grade their level of importance. The components were taken from the literature (Nyström 2005a) and the general debate.

The result presented in figure 1 shows that all respondents included trust, common goals and following up common goals as important or very important components.

Figure 1. The respondents' view of partnering



The respondents' experience of partnering was generally small as can be seen in table 22.

Table 22. The respondents experience of partnering

The respondents' experience of partnering	
None	13
Small	12
Vast	5

In this section a number of statements about partnering were put forward to the respondents.[19] The statements were based on what is often said about partnering.

Two statements regarded the amount and the level of bids when partnering is included. Most of the respondents disagreed with both statements.

Table 23. Statements about partnering and bids

Statements		Disagree	Agree partially	Totally agree	No opinion
A	The amount of bids will be higher with partnering in comparison with traditional projects[20]	15	7	1	7
B	The bids will be higher with partnering in comparison with traditional projects	14	7	2	7

It is not obvious how to assess the effects of partnering, but some questions were asked concerning the respondents' beliefs about the effects presented in table 24. The most evident result is that the respondents believed that it is easier to achieve cost reductions with partnering in comparison to projects without partnering (D). There was also an overwhelming consensus that it is easier to avoid conflictions between client and contractor with partnering in comparison with traditional projects (F). It could be commentated that the transaction costs of partnering did not seem to be lower (I), which is further discussed in Nyström (2005b).

[19] For figure over all the statements see Appendix 2.
[20] Traditional projects are projects without partnering.

Table 24. Statements about partnering and effects

	Statements	Disagree	Agree partially	Totally agree	No opinion
C	It is easier to achieve prescribed quality with partnering in comparison with traditional projects	1	11	17	1
D	It is easier to achieve cost reductions with partnering in comparison with traditional projects	0	8	22	0
E	It is easier to achieve time reductions with partnering in comparison with traditional projects	3	9	11	7
F	It is easier to avoid conflictions between client and contractor with partnering in comparison with traditional projects	1	11	18	0
G	It is easier to resolve conflictions between client and contractor with partnering in comparison with traditional projects	1	13	16	0
H	It is more likely for production improvement to arise with partnering in comparison with traditional projects	2	7	19	2
I	More time/resources for meetings and discussions are used in partnering projects in comparison with traditional projects	3	14	13	0

No support could be found in the statement that partnering deteriorate the businesslike relationship within the studied data.

Table 25. Statements about partnering and businesslike behaviour

	Statements	Disagree	Agree partially	Totally agree	No opinion
J	Partnering deteriorate the businesslike relationship between client and contractor	18	11	0	1

Both clients and contractors have, respectively, been described as winners in partnering projects. Most of the respondents disagreed to both statements, K and L. Noticeable is also that a large number of respondents had no opinion about this.

Table 26. Statements about partnering and the relative winner

	Statements	Disagree	Agree partially	Totally agree	No opinion
K	The client has relatively more to win with partnering than the contractor	12	5	4	9
L	The contractor has relatively more to win with partnering than the client	15	5	1	9

The answers, presented in table 27, indicate that the respondents had a positive attitude towards partnering and thought that this way of working will remain.

Table 27. Statements about partnering

Statements		Disagree	Agree partially	Totally agree	No opinion
M	Partnering, or suchlike business relationship, are here to stay	0	6	23	1
N	Partnering is a more fun way of working	0	11	16	3
O	Partnering is not more than a new fad, for a way of working that has been done for ages	19	5	4	2

The most obvious answers from the statements was that the respondents agreed that it is easier to obtain cost reductions with partnering (D), that partnering as a organisational forms is here to stay (M) and that partnering is not a less fun way of working (N). They did not agree that partnering worsen the businesslike relationship (J), but here it should be remembered that the respondents were all involved in partnering projects which might bias the answer.

Questions only to the clients

One of the statements was only put forward to the clients, and this concerned the workload with the contracts documents when partnering is included. The answers differed considerably among the clients.

Table 28. More work with the contracting documents when partnering is included

Statement to clients	Disagree	Agree partially	Totally agree	No opinion
More work is required with developing the contract documents with partnering in comparison with traditional projects	4	4	3	2

Questions only to the contractors

Three statements and one question were specific for the contractors. The first concerned risk-taking and partnering. As can be seen in table 29 the majority of the contractors leaned against perceiving partnering as a project form that reduces risk, which is further discussed in Nyström (2005b).

Table 29. Risk and partnering

Question to contractors	Lager	No difference	Smaller	No answer
Does partnering entail a larger or smaller risk-taking for your firm in comparison to a contract without partnering	2	4	8	3

One statement focused on the interest for partnering projects and most of the contractors indicated that they would be more interested in partnering projects compared to traditional projects - see table 30.

Table 30. Interest for partnering projects

Statement to contractors	Disagree	Agree partially	Totally agree	No opinion
Out of two identical projects, my company would be more interested of working in the project that included partnering.	1	5	11	0

Concerning the distribution of bids little support could be seen for partnering making the distribution wider.

Table 31. Distribution of bids

Statement to contractors	Disagree	Agree partially	Totally agree	No opinion
The distribution among bids is wider if partnering is included in comparison to a contract without partnering	5	3	1	8

The risk and distribution of bids can, among other aspects, be related to the possibility to calculate on the contracting documents. However, the answers concerning calculation with partnering differed among the contractors as seen in table 32.

Table 32. Possibility to calculate with partnering

Statement to contractors	Disagree	Agree partially	Totally agree	No opinion
A contract document, which includes partnering is harder to calculate	4	7	3	3

3.5. Conclusion on the procurement phase and the perception of partnering

The data collected from the questionnaire survey has now been presented. It can be concluded that most of the partnering projects, but not all, had incentive contracts and that all but one included soft parameters when evaluating the bids. Not surprisingly, the actors had good knowledge about each other, which might be due to the small market in Sweden. The client most often made the description of partnering in the contract documents in a not very detailed way. Little support could be found for partnering increasing the level of the bids, which goes along with contractors' answers of partnering not entailing higher risks. However, five of the clients considered their accepted bid higher than budgeted.

From the result concerning the type of specifications (see table 6) it can be stated that partnering is a way of working and not a new type of specification. This conclusion can be drawn since partnering obviously works under different types of specifications and regulations. However, another question is which type of specifications and regulations works

best with the concept and whether partnering needs a unique regulation. This important question lies outside the scope of this paper and needs further research.

Getting more out of the project for the same amount of money and *a better collaboration environment* were the two highest ranked motives for partnering according to the clients. Noticeable is that the ranking of avoiding conflicts as a motive for partnering was relatively low, considering that this is often mentioned as the initial purpose the concept. A possible explanation for this might be that the Swedish construction industry can be characterised as having a relatively low degree of conflicts (Kadefors 2002).

The respondents viewed trust, common goals and following up common goals as the most important components in partnering.

Concerning the statements, there was most agreement on partnering improving the possibility of cost reductions (D), not deteriorating the businesslike relationship (J) and being a way of working that is here to stay (M). It can also be concluded that partnering is not a less fun way of working (N). The widest distribution of responses was seen concerning the client having more to win (K).

4. Analysis

The analysis below will see if there are any interesting relations between the answers on selected questions and background factors i.e. type of project, age and whether the responder is a client or a contractor. The partnering flower will also be tested empirically.

4.1. Statistical methods

The Mann-Whitney U-test is a suitable method for testing differences between two small groups (e.g. client-contractor). It is also appropriate with ordinal answer alternatives, like this questionnaire, since the method is based on rank sums. When the groups increase above two (e.g. type of project; Maintenance, New- investment and Re-investment) the Kruskal-Wallis test is applied, which is an extension of the Mann-Whitney U-test to three groups.

Normal distribution is assumed when observation groups, n_1 and n_2, are larger than 10 for the Mann-Whitney test. However, normal distribution cannot be assumed when any of the observation groups are less than 10 (Levin and Rubin 1991). In these cases the U-test is applied. The Kruskal-Wallis test requires at least 5 observations in each group for using the chi-square distribution (Johnson 2000). If all of the observations in each group are below 5 this distribution is not applicable and H-statistics should be used (Kruskal and Wallis 1952). Since this study only has 4 observations in Re-investment and more than 5 in Maintenance and New-investment, it is not clear what sampling distribution to use (Lehmann 1975). However, this paper will follow the example in Siegel (1956) and use the chi-square distribution.

The null-hypothesis throughout this section is the following:

H_0 = There is no difference between the groups (e.g. Client-contractor).

The alternative hypothesis is:

H_1 = There is a difference between the groups.

Even though both methods above are suited for a small number of observations, significant results must be handled carefully and no general conclusion about the selected aspects will be drawn in this paper. Because of this, no significance level is presupposed. However, the methods above are still good tools for finding interesting differences between the studied groups. About the methods it can be concluded that Z- (Mann-Whitney) and H-values (Kruskal-Wallis) are positively correlated with differences between groups[21] and U-values are negatively correlated.

The answering alternative "No opinion" has been excluded from the statistical analysis since these respondents do not add any information on the specific question.

4.2. Client vs. contractor

Both theorists (e.g. Barlow 2000) and practitioners (e.g. Burel 2004) emphasize that partnering is especially useful in complex projects. Table 3 indicated that the majority of the respondents considered their project as more complex than average projects of the same type. If this is due to the actual project, the partnering concept or the contract type cannot be determined here. Comparing the client's and the contractor's views on the complexity of the project, no important difference could be distinguished as seen in table 33.[22] Noticeable is however that only in two out of the 18 projects were there agreement about the complexity of the project between client and contractor.

Table 33. Complexity, client vs. contractor

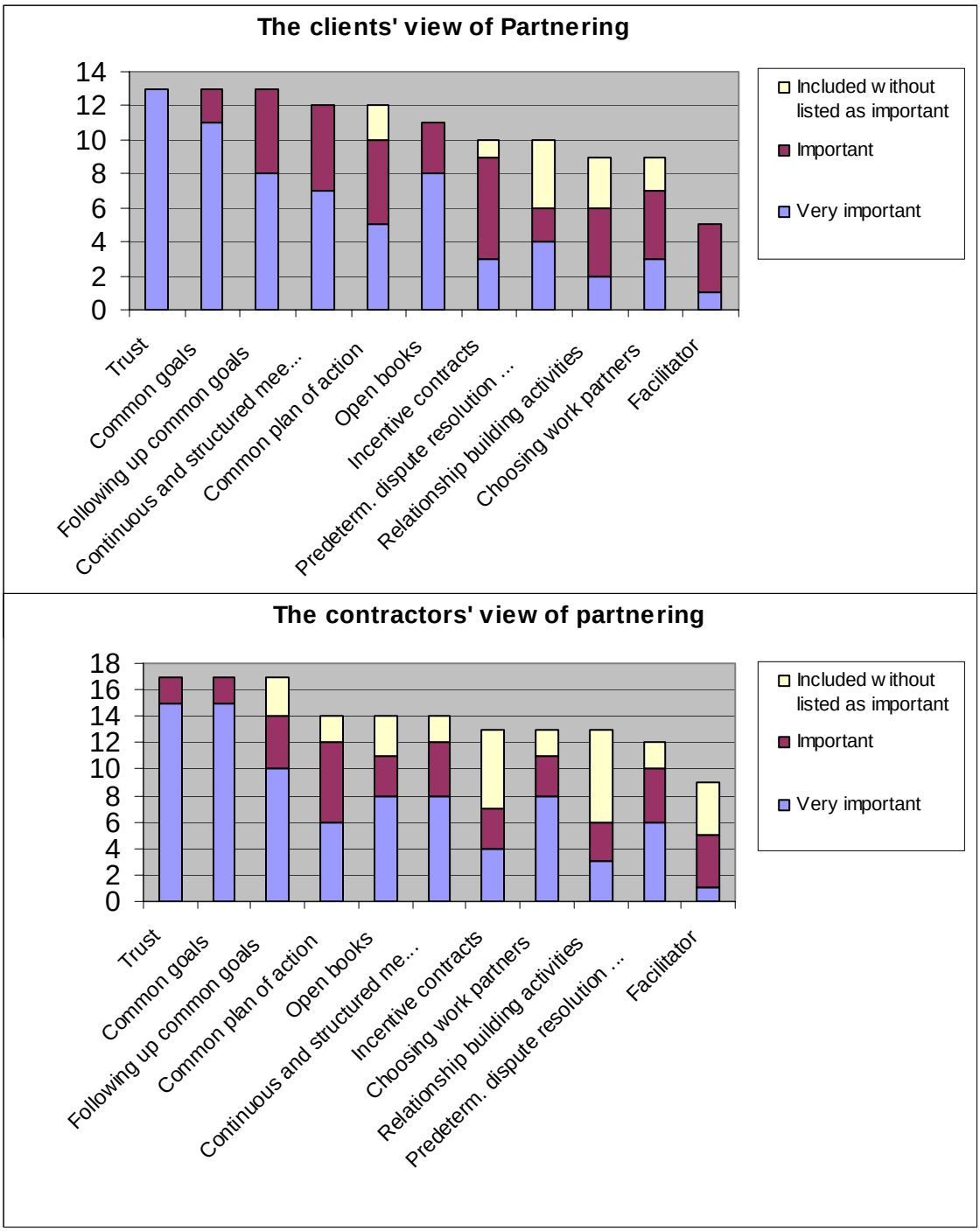
Complexity	**More complex**	**Average**	**Less complex**	**No opinion**
Contractors	9	6	1	1
Clients	4	5	1	3

[21] It should be noticed that the Mann-Whitney test gives both a negative and a positive value of Z.

[22] 16 Contractors (n_1) and 10 Clients (n_2) answered, giving U1=66,5 U2=93,5 and Z=0,71

Concerning the view of partnering no important difference could be seen between the clients and the contractors i.e. the two groups agreed to a large extent.[23] This can be seen in figure 2, where the ranking of the components differed a little in order but not enough to give a major difference according to the Mann-Whitney test.

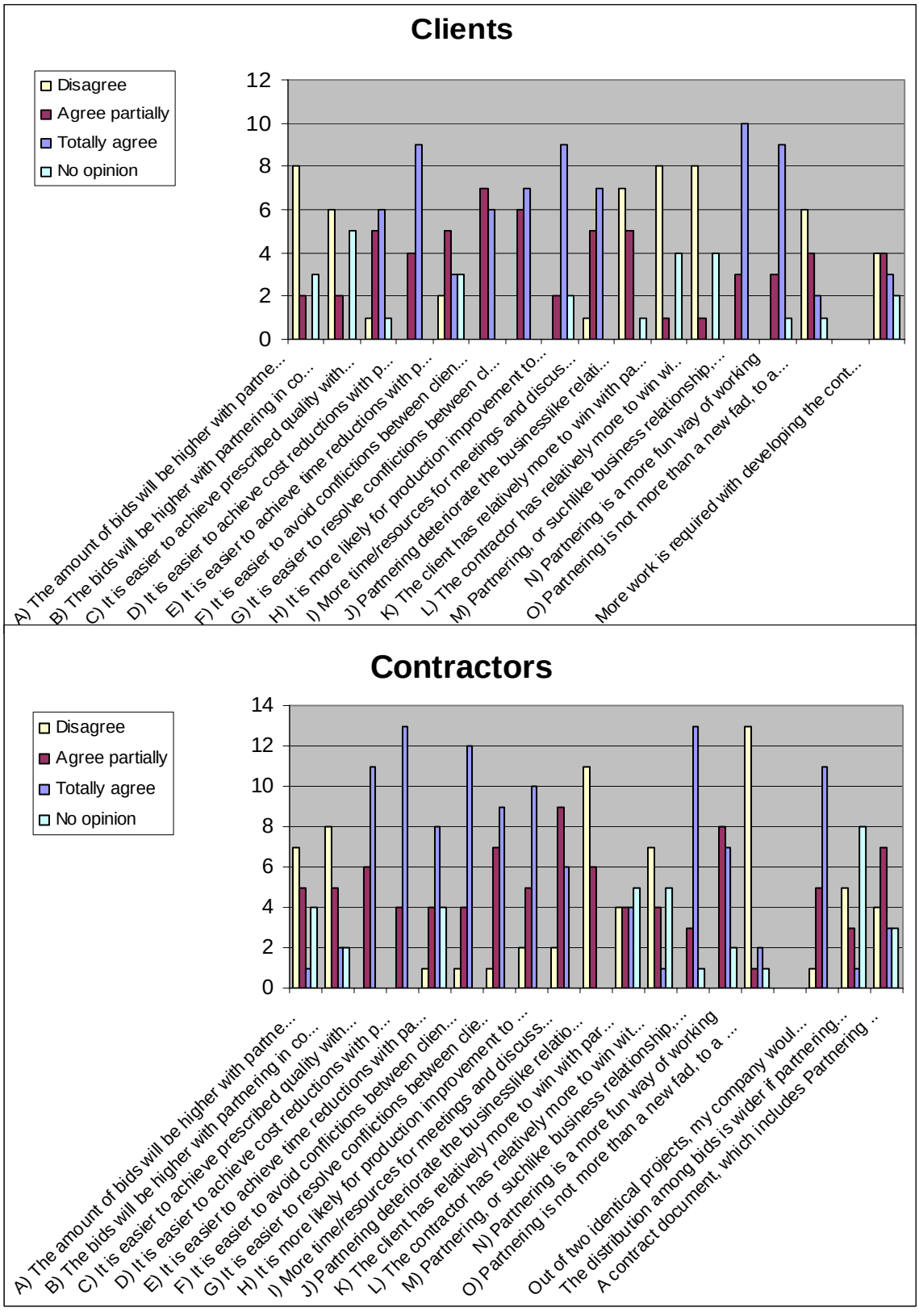
Figure 2. View of partnering, client vs. contractor



[23] n_1=153 n_2=117, giving U_1=9127 U_2=8774 and Z= 0,27

The result of the clients' and the contractors' perceptions concerning the statements is graphically presented in figure 3.

Figure 3. The statements, client vs. contractor



The largest difference between the clients' and the contractors' answers was found in statement K- where the client has relatively more to win. The Mann-Whitney U-test indicates that in this case the null hypothesis could be rejected with 95 % certainty.[24]

Table 34. Statement K, client vs. contractor

No	**Statement K** The client has relatively more to win with partnering than the contractor	**Disagree**	**Agree partially**	**Totally agree**	**No opinion**
	Clients	8	1	0	4
	Contractors	4	4	4	5

other statement than K showed any important difference between the clients and the contractors. However, the Mann-Whitney U-test is also useful in the opposite direction i.e. showing where the groups were in most agreement. Formally put, it indicates the statements that were furthest away from being significantly different by showing small Z-values.

These were the following statements:

> **G)** It is easier to resolve conflicts between client and contractor with partnering in comparison with traditional projects.[25]
> 41% (7 respondents) of the contractors and 46% (7 respondents) of the clients agreed partially with the statement and 53% (9 respondents) and 54% (7 respondents) respectively totally agreed.
>
> **M)** Partnering, or suchlike business relationship, are here to stay.[26]
> 81% (13 respondents) of the contractors and 77% (10 respondents) of the clients totally agreed to this statement.
>
> **J)** Partnering deteriorate the businesslike relationship between client and contractor.[27]
> 65% (11 respondents) of the contractors and 58% (7 respondents) of the clients did not agree at all partially with the statement and 35% (6 respondents) and 42% (5 respondents) respectively agreed partially.

An interesting observation is that in six of the twelve fact-based questions (table 2,4,6,7,12,14,16-21) the answers differed between client and contractor within the same project. This is a rather high figure since all respondents are project managers, or similar, with responsibility for the project. The respondents were advised to supplement information from colleagues if they did not know the answers by memory, but maybe this was not done.

Concluding this section it can be stated that the opinions did not differ much within this material between clients and contractors. This can of course be due to the lack of observations but still the view of partnering was very alike between the two groups and comparing the results in figure 3 the clients and the contractors agreed to a large extent on most statements.

4.3. Younger vs. Older

[24] n_1=12 n_2=9, giving U_1=86 U_2=22 and Z= 2,27
[25] n_1=17 n_2=13, giving U_1=106,8 U_2=114,2 and Z=0,15
[26] n_1=17 n_2=13, giving U_1=108,5 U_2=99,5 and Z=0,20
[27] n_1=17 n_2=12, giving U_1=95,5 U_2=108,5 and Z=0,29

Partnering has been described as a way of attracting younger people to the somewhat aging construction industry. An indication of this would be to look for differences among the older and the younger respondents, with the latter being more positive. This paper makes the distinction that all respondents over 50 are considered older and these constitute 47 percent (14 respondents).

Concerning the motives for partnering no important differences could be observed between younger and older clients.[28]

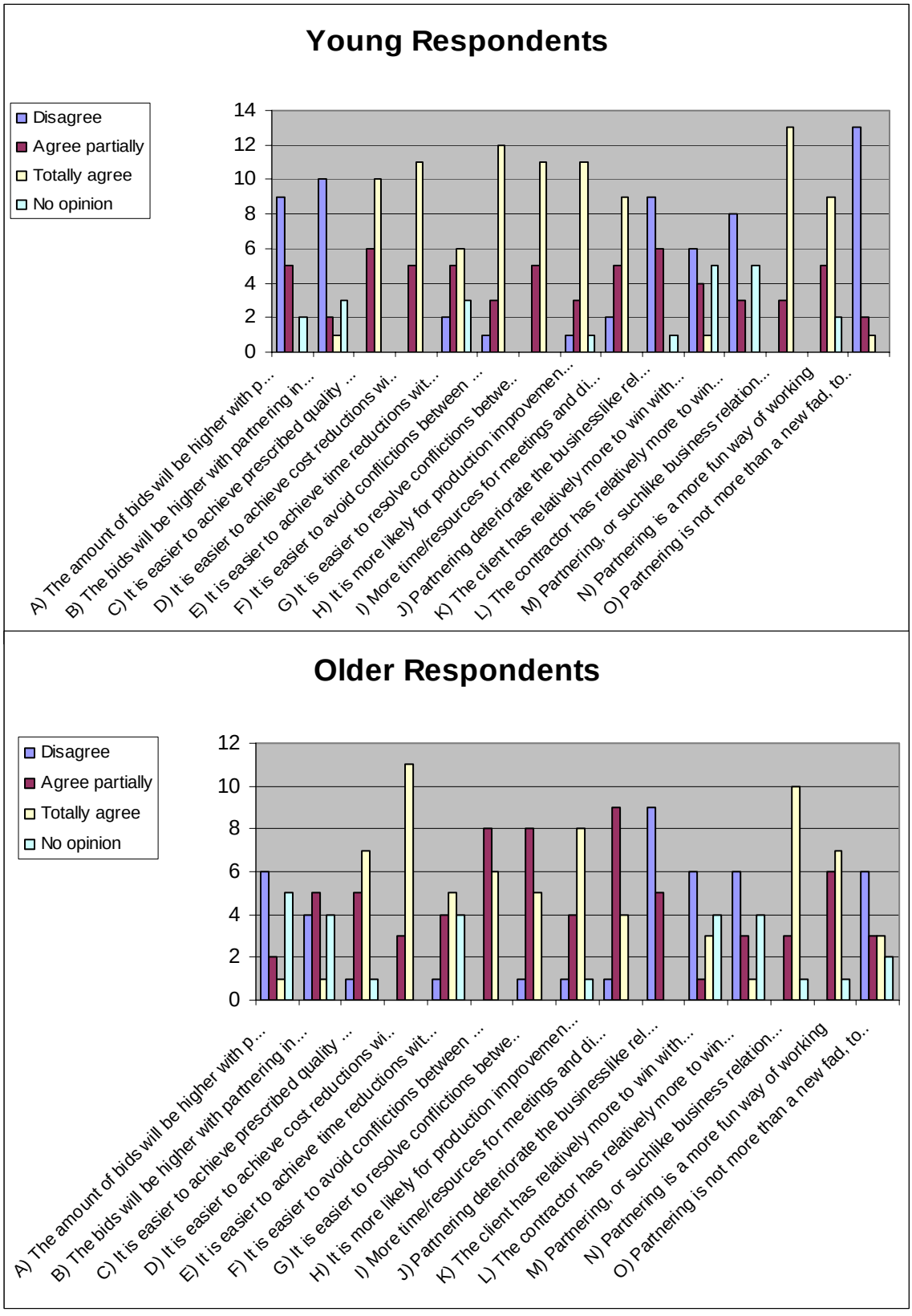
Table 35. The clients' motives for partnering, younger vs. older

The clients motives for partnering	Younger	Older	Total
Get more out of the project for the same amount of money	6	4	10
Make way for a better collaboration environment	3	7	10
Secure quality	5	4	9
Learn from the contractors	4	4	8
Save money	3	4	7
Flexibility	3	3	6
Avoid/prevent disputes	2	4	6
Become more well-informed about the contractor	1	2	3
Other	2	1	3
Get a better contact with the contractor's contractors.	1	0	1
None, decided from above in the organisation	0	0	0

[28] 30 Younger (n_1) and 33 Older (n_2) answered, giving U_1=536 U_2=454 and Z=0,56

Figure 4 presents the results concerning the statements divided by age.

Figure 4. The statements, younger vs. older



The biggest differences could be seen in statement G[29] and O[30], where the null-hypothesis, that the populations are identical, could be rejected with 93 % certainty in G and 91 % certainty in O. Hence, some support for the younger being more positive towards partnering could be found here.

Table 36. Statement G, younger vs. older

Statement G It is easier to resolve conflictions between client and contractor with partnering in comparison with traditional projects	**Disagree**	**Agree partially**	**Totally agree**	**No opinion**
Younger	0	5	11	0
Older	1	8	5	0

Table 37. Statement O, younger vs. older

Statement O Partnering is not more than a new fad, for a way of working that has been done for ages	**Disagree**	**Agree partially**	**Totally agree**	**No opinion**
Younger	13	2	1	0
Older	6	3	3	2

Most agreement between the age groups was found in the following statements:

A) The amount of bids will be higher with partnering in comparison with traditional projects.[31]
60% (9 respondents) of the younger and 67% (6 respondents) of the older totally agreed to this statement.

K) The client has relatively more to win with partnering than the contractor.[32]
55% (6 respondents) of the younger and 60% (6 respondents) of the older totally agreed to this statement.

J) Partnering deteriorate the businesslike relationship between client and contractor.[33]
60% (9 respondents) of the younger and 64% (9 respondents) of the older totally agreed with the statement and 40% (6 respondents) and 36% (5 respondents) respectively agreed partially.

M) Partnering, or suchlike business relationship, are here to stay.[34]
81% (13 respondents) of the younger and 77% (10 respondents) of the older totally agreed with this statement.

4.4. Type of projects

[29] n_1=16 n_2=14, giving U_1=155,7 U_2=68,3 and Z=1,82
[30] n_1=16 n_2=12, giving U_1=59,1 U_2=132,9 and Z=1,71
[31] n_1=15 n_2=9, giving U_1=62 U_2=64 and Z=0,06
[32] n_1=11 n_2=10, giving U_1=52,5 U_2=57,5 and Z=0,18
[33] n_1=15 n_2=14, giving U_1=109,5 U_2=100,5 and Z=0,20
[34] n_1=16 n_2=13, giving U_1=108,5 U_2=99,5 and Z=0,20

Since there are three types of projects in this survey, the Kruskal-Wallis H-test is used to look for differences between these groups.

Concerning how the respondents perceived complexity no important difference could be found depending on what type of project the respondent came from, as can be seen in table 38.[35]

Table 38. Complexity, type of project

Complexity	More complex	Average	Less complex	No opinion
Maintenance	6	5	2	3
New- investment	4	5	0	1
Re-investment	3	1	0	0

The clients' motives for partnering did not reveal any large differences between project types.[36]

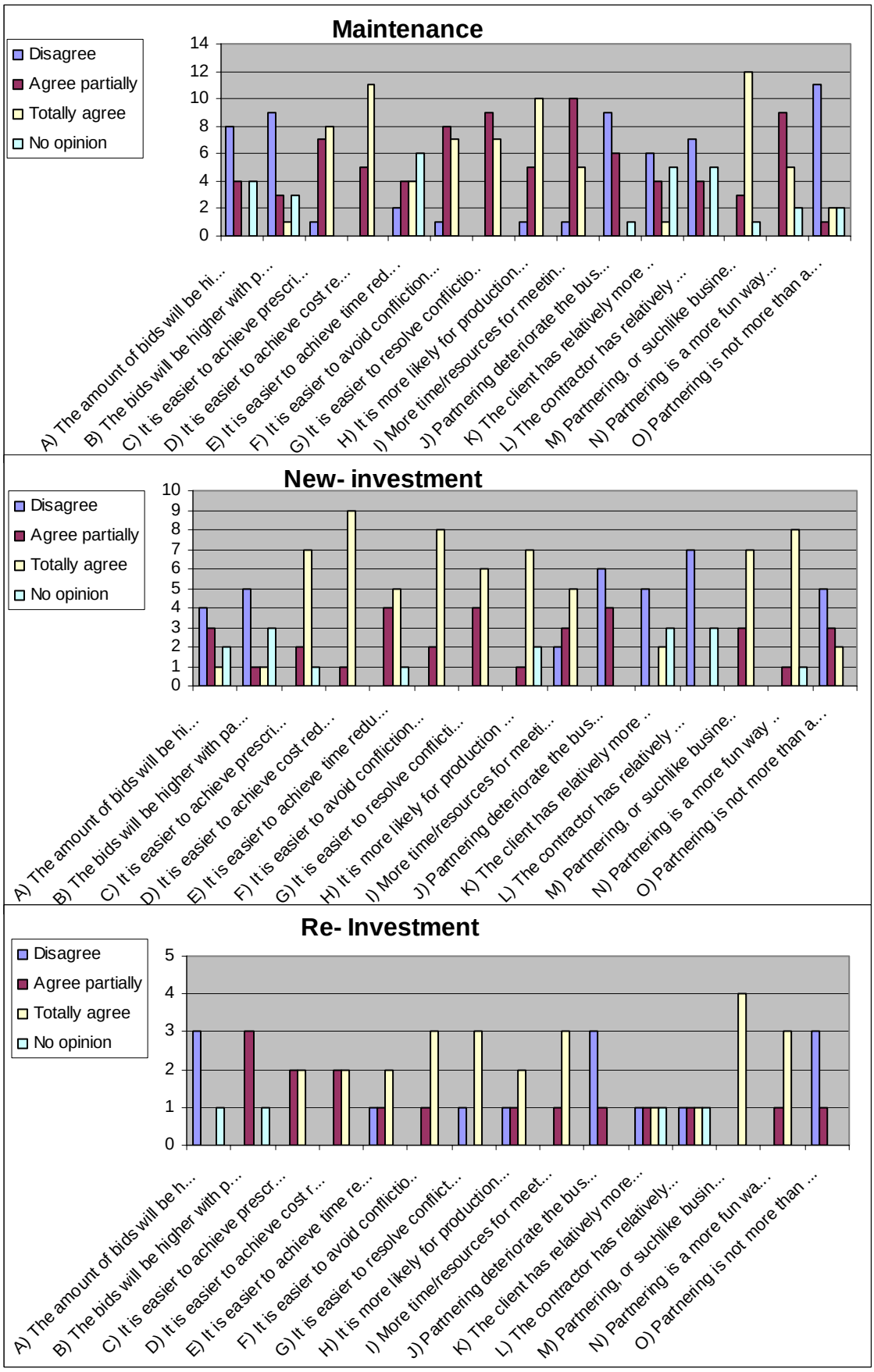
Table 39. Motives, type of project

The clients motives for partnering	Maintenance	New-investment	Re-investment	Total
Get more out of the project for the same amount of money	6	3	1	10
Make way for a better collaboration environment	5	3	2	10
Secure quality	4	4	1	9
Learn from the contractors	3	3	2	8
Save money	3	4	0	7
Flexibility	4	1	1	6
Avoid/prevent disputes	2	3	1	6
Become more well-informed about the contractor	2	0	1	3
Other	1	1	1	3
Get a better contact with the contractor's contractors.	0	1	0	1
None, decided from above in the organisation	0	0	0	0

[35] 13 Maintenance (n_1), 9 New-investment (n_2) and 4 Re-investment (n_3) answered, giving H=1.05
[36] n_1=30, n_2=23 and n_3=10 giving H=0,53

Figure 5 presents the results concerning the statements divided by type of projects.

Figure 5. The statements, type of project



Statement N[37] presented in table 40 showed the largest difference between project types. According to the Kruskal-Wallis test, the null hypothesis; that there is no difference in the answers between the respondents from different types of projects, could be rejected with 90 percents certainty.

Table 40. Statement N, type of project

Statement N Partnering is a more fun way of working	**Disagree**	**Agree partially**	**Totally agree**	**No opinion**
Maintenance	0	9	5	2
New- investment	0	1	8	1
Re-investment	0	1	3	0

However, it should be noticed that all except 3 respondents agreed to some extent in this statement. The difference lies in the relatively less enthusiastic opinions from the maintenance respondents.

Most agreement between the respondents from different types of projects could be found in statement:

> **J)** Partnering deteriorate the businesslike relationship between client and contractor.[38] 60% of the responders from both maintenance and new-investment projects disagreed to this statement and the remaining 40% agreed partially. 75 % (3 responders) of the re-investments projects also disagreed.

4.5. Empirical test of the partnering flower

In Nyström (2005a) there is a literature review of 13 articles about important components of partnering. Table 41 shows the result of this study, that all authors included trust and common goals.

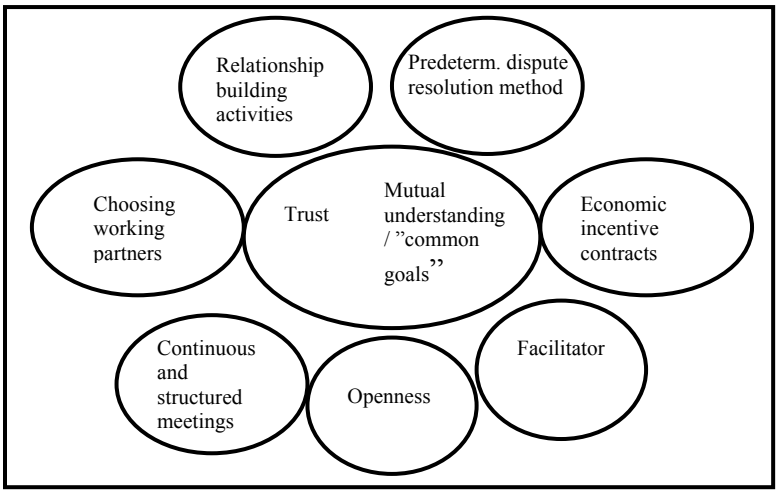
Table 41. Components of partnering from Nyström (2005a)

Components	Number of authors
Trust	13
Common goals	13
Predeterm. dispute resolution method	8
Economic incentive contracts	6
Relationship building activities	6
Continuous and structured meetings	6
Facilitator	6
Open-books	4
Choosing work partners	2

[37] n_1=14, n_2=9 and n_3=4 giving H=4,82
[38] n_1=15, n_2=10 and n_3=4 giving H=0,23

Applying philosopher Ludwig Wittgenstein's idea of family-resemblance to this result, the partnering flower can be developed as in figure 6.

Figure 6. The partnering flower



Here partnering always consists of trust and common goals, accompanied by some additional component. However, the partnering flower can be criticized for only being based on theoretical literature. Therefore, the components were tested among the respondents to get the more practicable view. As show in graphical form above (figure 1), the result was the following.

Table 42. The respondents' view of partnering

Components	Included without listed as important	Important	Very important	Total
Trust	0	2	28	30
Common goals	0	4	26	30
Following up common goals	3	9	18	30
Common plan of action	4	11	11	26
Continuous and structured meetings	2	9	15	26
Open books	3	6	16	25
Incentive contracts	7	9	7	23
Predeterm. dispute resolution method	6	6	10	22
Choosing work partners	4	7	11	22
Relationship building activities	10	7	5	22
Facilitator	8	5	1	14

It can be stated that the authors from Nyström (2005a) and the respondents' view correspond to a large extent. All observations, both practitioners and theorists, include trust and common goals in partnering. To conclude, this survey supports the partnering flower.

4.6. Other observations

In the general debate about partnering, it has been heard that this way of working in the construction industry is especially suited for women. A theoretical explanation for this agreement is yet to be presented. This survey included three female respondents, whose answers did not distinguish them from the men within this small number of observations.

5. Conclusion

Returning to the initial purposes of this paper, it can be stated concerning the procurement phase that most of the studied projects included soft variables when evaluating bids. Other clear results were that almost all projects have incentive contracts and that there was good knowledge about the opposite party going into the contract. No support could be found for partnering entailing more risk for the contractor. This result goes along with the indications that the ability to calculate was not worsened with partnering included. The respondents did not support the statement that bids will be higher with partnering, however 5 bids were higher than budget according to the clients. More empirical data is needed to investigate the affect of partnering concerning level of bids.

Regarding the perception of partnering, the concept seems to have most potential concerning cost reductions. There was also a large consensus that partnering will not deteriorate the businesslike relationship and that partnering, as a business relationship, is here to stay. Generally it can be stated that none of the groups differed much in their answers i.e. the perception of partnering did not depend much on age, type of project or whether the respondent was a client or contractor. However, the highest sum of all the Z-values from the statements were to be found in the client-contractor comparison, which gives an indication that these responses differed most from each other compared to the other two groups.[39] The material showed that the clients were more sceptical to seeing themselves as winners compared to the contractors view on this issue. It could also been seen that the younger respondents were more positive to partnering, concerning possibilities for conflict resolution and partnering not just being a new fad. Finally the respondents from maintenance projects were not quite as convinced about partnering being a more fun way of working compared to the other respondents.

The collected data in this survey supported the theoretical partnering flower in Nyström (2005a). Just like the literature review, all of the respondents included trust and common goals as important components. For further studies it would be interesting to test the flower on completed projects and evaluate which set of components work best in specific situations.

[39] A Z-value was computed between Maintenance and New-investment concerning type of project.

References

Barlow, J., Cohen, M., Jashapara, A. and Simpson Y. (1997) *Towards positive partnering*. The Policy Press, Bristol.

Barlow, J. (2000) Innovation and learning in complex offshore construction projects. *Research Policy*, **29**(7-8), 973-989.

Burel, G. (2004) in Nya Banor, issue 5, page 6.

Johnson, R. (2000) *Miller & Freund's Probability and statistics for engineers*. Prentice Hall, Upper Saddle River.

Kadefors, A. (2002) Förtroende och samverkan i byggprocessen – Förutsättningar och erfarenheter. Chalmers University of Technology, Göteborg.

Kruskal, W. and Wallis, A. (1952) Use of Ranks in One-Criterion Variance Analysis. *Journal of the American Statistical Association*, **47**(260), 583-621.

Lehmann, E.L. (1975) *Nonparametrics*: *statistical methods based on ranks*. Holden-Day, New York; San Francisco.

Levin, R. and Rubin, D. (1991) *Statistics for management*. Prentice-Hall International, Englewood Cliffs, N.J.

Nyström, J. (2005a) The definition of Partnering as a Wittgenstein Family-Resemblance concept. Forthcoming in Construction Management and Economics.

Nyström, J. (2005b) Partnering as a (more) complete contracts. Licences thesis, Royal Institute of Technology, Stockholm.

Olsson, U. (2003) Partnering för ombyggnad av väg 339, upphandlingsskedet etapp 1: ett demonstrationsprojekt på initiativ av IVA Anläggningsforum. Research Report 2003:06, Luleå University of Technology.

Scherer, F.M. (1964) The theory of contractual incentives for cost reduction. *Quarterly Journal of Economics*, **78**: 257-280.

Siegel, S. (1956) *Nonparametric statistics for the behavioral sciences*. McGraw-Hill, New York.

Appendix 1, Studied projects

Maintenance projects

Arvika, Road
Client: Swedish National Road Association
Contractor: Vägverket Produktion[40]

Sorsele, Road
Client: Swedish National Road Association
Contractor: Vägverket Produktion

Täby, Road
Client: Täby Municipal
Contractor: NCC

Härnösand, Road
Client: Härnösand Municipal
Contractor: NCC

Trunkline, part 124, 141 and 143, Rail
Client: Banverket (Swedish National Rail Association)
Contractor: Svensk Banproduktion

Haparandabanan, Rail
Client: Banverket
Contractor: Banverket Produktion[41]

Norrtälje
Client: Norrtälje Municipal

Water supply and sewerage
Contractor: Vivendi Water

Road
Contractor: Vägverket Produktion

Real Estate
Contractor: ISS Ecuro AB

Vellinge, Park
Client: Vellinge Municipal
Contractor: Miljöbyggarna-NCC

[40] The SNRA's own production unit.
[41] Banverket's own production unit.

New-investment projects

Götatunneln, Installation works
Client: Swedish National Road Association
Contractor: YIT

Norrortsleden, Installation works
Client: Swedish National Road Association
Contractor: El & Industrimontage Svenska AB

Uppsala-Läby, Road buliding
Client: Swedish National Road Association
Contractor: Veidekke

Maria Södra, House building
Client: Helsingborgshem
Contractor: NCC

Löjtnanten, House building
Client: Stångastaden
Contractor: NCC

Järpen, House building
Client: Karlstads Bostads AB
Contractor: Skanska

Re-Investment projects

Hallsbergs rangerbangård, Railway switchyard
Client: Banverket
Contractor: Banverket Industrial Division[42]

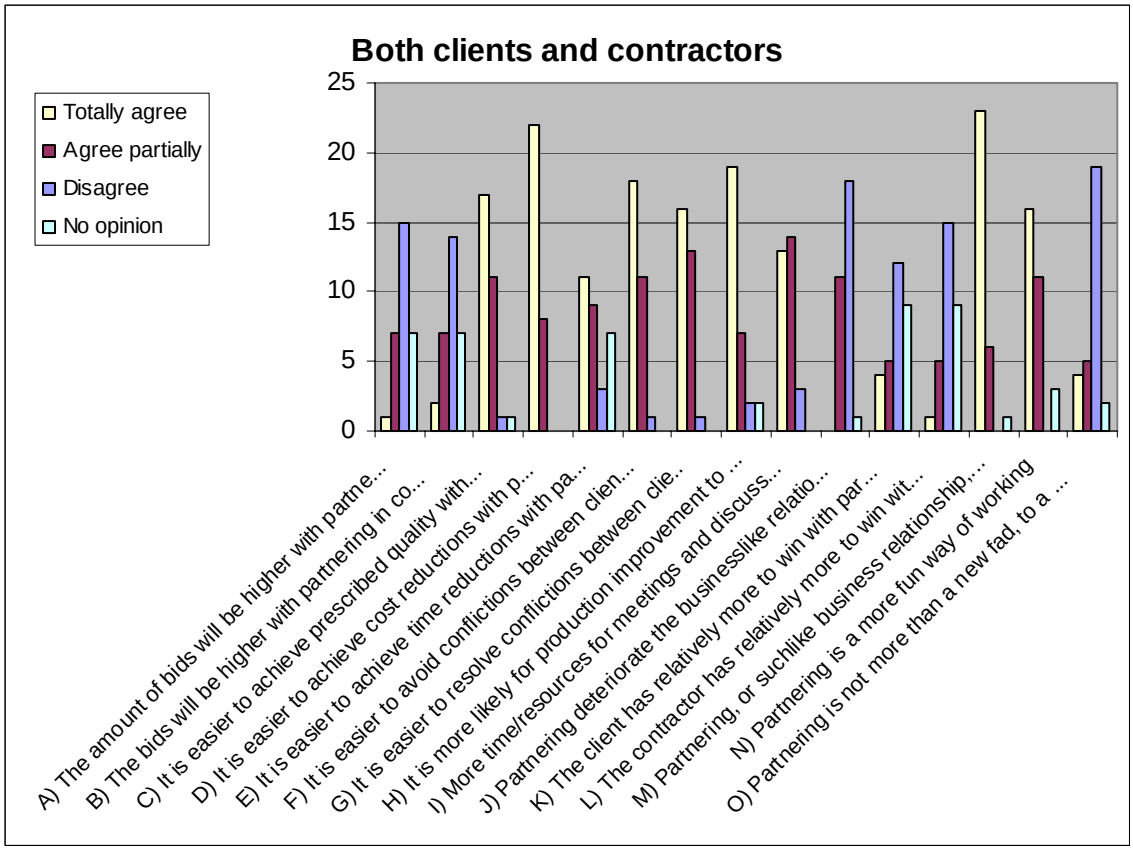
Tjärna Ängare, House re-buliding
Client: Tunabyggen
Contractor: Skanska

[42] Banverket's own production unit.

Appendix 2

The statements in a graphical setting.

Figure 7. Statements about partnering



Appendix 3, The client questionnaire

DEL 1. Allmänt

1.1 Vilken organisation företräder du

……

1.2 Vilken roll har du i projektet

……

1.3 Hur många år har du arbetat i branschen

……

1.4 Är du ☐ Man ☐ Kvinna

1.5 Hur gammal är du

☐ <25
☐ 26-30
☐ 31-40
☐ 41-50
☐ 51-60
☐ 61<

1.6 Av vilken typ är det aktuella projektet

☐ Nyinvestering
☐ Drift och Underhåll
☐ Reinvestering
☐ Annan

Kort beskrivning av projektet i ord

……

……

……

……

1.6 b) Jämfört med andra projekt av samma typ som angivet ovan, skulle du kategorisera det aktuella projektet som

☐ Mer komplext
☐ Genomsnittligt
☐ Mindre komplex
☐ Ingen uppfattning

1.7 Har din organisation arbetat ihop med den vinnande utföraren tidigare

☐ Ja ☐ Nej

Om Ja, hur många gånger

☐ 1-3
☐ 4-10
☐ 10<

1.8 Har beställare och utförare god kunskap om varandras organisationer och om personerna i respektive organisation

☐ Ja ☐ Nej ☐ Ingen uppfattning

1.9 Vilken entreprenadform upphandlas projektet som

☐ Totalentreprenad
☐ Utförandeentreprenad
☐ Funktionsentreprenad
☐ Annan

……

……

1.10 Regleras projektet av

☐ AB 92
☐ ABT 94
☐ Annan

……

……

1.11 Hur stor är den upphandlade anbudssumman

……

och vilken upphandlingsform gällde

Under tröskelvärde:
☐ Förenklad upphandling
☐ Urvalsupphandling

Över tröskelvärde:
☐ Öppen upphandling
☐ Selektiv upphandling
☐ Förhandlad upphandling

1.12 Ange de nollställda (dvs jämförbara) anbudssummorna enligt anbudsprotokollet

Anbud 1 ……

Anbud 2 ……

Anbud 3 ……

Anbud 4 ……

Anbud 5 ……

Fler

……

……

……

……

1.13 Hur många anbud hade Ni förväntat Er

☐ Fler
☐ Ungefär lika
☐ Färre

1.14 Hur låg det antagna anbudet i förhållande till Er ”skuggkalkyl”

☐ Högre
☐ Lägre
☐ Ungefär lika

1.15 Var det enligt din uppfattning större spridning på anbuden i jämförelse med traditionella projekt

☐ Ja ☐ Nej

DEL 2. Upphandlingen

Förfrågningsunderlaget

2.1 Vilka motiv fanns för Er organisation att inkludera partnering i projektet (flera svar är tänkbara)

☐ Spara pengar
☐ Säkerställa kvalitet
☐ Få mer insikt i utförarens organisation
☐ Bädda för ett bra samarbetsklimat mellan parterna
☐ Ta del av utförarens kunskaper
☐ Få mer utfört för samma peng
☐ Möjlighet att anpassa beställningen under projektets genomförande
☐ Undvika/förebygga konflikter mellan parterna under projekttiden
☐ Få bättre kontakt med underentreprenörerna
☐ Inga, var bestämt av högre instans
☐ Andra

……

……

……

……

2.2 Är det i förfrågningsunderlaget fastställt att projektet kommer genomföras som partnering eller föreslås partnering som ett möjligt sätt att genomföra projektet

☐ Fastställt
☐ Som en möjlighet

Om ”Som en möjlighet”, på vilka grunder skulle din organisation inte vilja genomföra projektet som partnering

☐ Min organisation saknar erfarenhet av partnering
☐ Utföraren saknar erfarenhet av partnering
☐ Personer som är ansvariga hos utföraren bedöms mindre lämpliga för partnering
☐ Andra

……

……

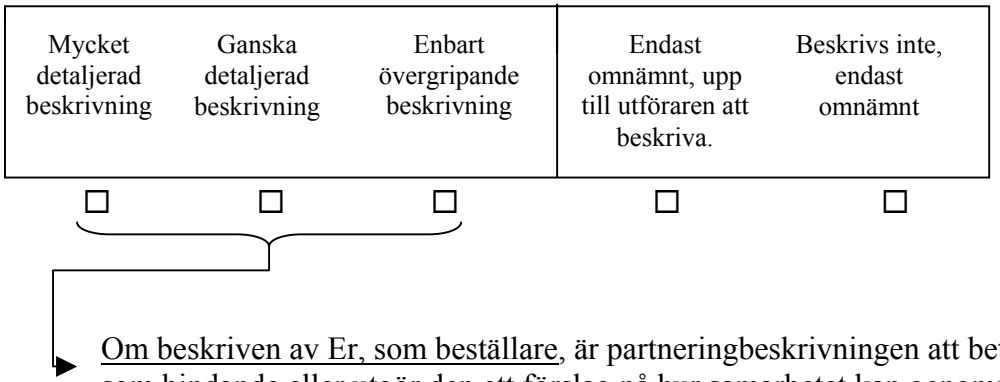
……

……

2.3 Finns det möjlighet att i avtalet häva partnering samarbetet efter en viss tid och genomföra projektet som ett traditionellt projekt utan partnering

☐ Ja ☐ Nej

2.4 Hur beskrivs partnering i förfrågningsunderlaget, sätt ett kryss i den ruta som bäst överensstämmer med beskrivningen enligt följande



☐ ☐ ☐ ☐ ☐

Om beskriven av Er, som beställare, är partneringbeskrivningen att betrakta som bindande eller utgör den ett förslag på hur samarbetet kan genomföras

☐ Bindande
☐ Förslag

Fanns någon särskild inspirationskälla till beskrivningen av partnering (flera svar är tänkbara)

☐ Internt utvecklad modell
☐ Konsult
☐ Böcker/rapporter, exempel

……

……
☐ Annan

……

……

……

……

2.5 Erbjöds utförarna ett informationsmöte om partnering ☐ Ja ☐ Nej

Ersättningsform

2.6 Vilken ersättningsform tillämpas i projektet

☐ Löpande räkning
☐ Fastpris med mängdreglering
☐ Fastpris utan mängdreglering
☐ Riktkostnad och incitament med ersättning enligt löpanderäkning
☐ Annan

……..……

……

Om Riktkostnad och incitament med ersättning enligt löpanderäkning, hur ska eventuell besparing eller fördyring i förhållande till riktkostnaden fördelas

Procent, Beställare/Utförare …….

……..……

……

Framgår det ur förfrågningsunderlaget vilka omständigheter som föranleder ändring av riktkostnaden

☐ Nej
☐ Ja, vilka
☐ Ändrade systemkrav
☐ Ändrad funktion
☐ Tillägg eller avdrag av/från det beställda
☐ Fel i förfrågningsunderlaget
☐ Mängdförändringar
☐ Ändrad kvalitet
☐ Andra

……..……

……..

……

Framgår det ur förfrågningsunderlaget hur ett eventuellt underskridande av riktkostnaden hanteras från Er sida, dvs hur spenderas pengarna

☐ Ja ☐ Nej

om Ja, hur spenderas pengarna

……..……

……

2.7 Vilken är den vanligaste ersättningsformen vid liknade projekt som inte inkluderar partnering

☐ Löpande räkning
☐ Fastpris med mängdreglering
☐ Fastpris utan mängdreglering
☐ Riktkostnad och incitament med ersättning enligt löpanderäkning
☐ Annan

……

……

Om Riktkostnad och incitament med ersättning enligt löpanderäkning, hur ska eventuell besparing eller fördyring i förhållande till riktkostnaden fördelas

Procent, Beställare/Utförare …….

……

……

2.8 Finns det i den aktuella upphandlingen ekonomiska incitament/bonusar (bortsett från eventuell riktkostnad och kostnadsdelning)

☐ Nej
☐ Ja, vilka
  ☐ Tidsbonusar, att projektet ska bli klart innan utsatt tid
  ☐ Säkerhetbonusar, att undvika olyckor
  ☐ Andra

……

……

……

Anbudsbedömning

2.9 Utöver grundkraven i LOU, inkluderas mjuka variabler i anbudsvärderingen

☐ Ja ☐ Nej

Om Ja, vilka mjuka variabler är inkluderade och hur stort värde (i procent) har de enligt anbudsvärderingsmodellen i förhållande till anbudssumman

		Ange värde i procent
☐ A	Genomförandeplan för partnering	…….
☐ B	Organisation och ledning	…….
☐ C	Kompetens/erfarenhet	…….
☐ D	Produktionsmetoder	…….
☐ E	Kvalitetssäkringssystem	…….
☐ F	Miljöcertifiering	…….
☐ G	Arbetsmiljö	…….
☐ H	Trafiksäkerhet	…….
☐ I	Referensobjekt	…….
☐ J	Riskbedömning och åtgärdsplan	…….
☐ K	Andra	

……

……

……

……

DEL 3. Partnering

3.1 Vilka av följande komponenter inkluderar du i partnering och därefter hur pass viktiga anser du att de utvalda är enligt den fem gradiga skalan. Sätt ett kryss för att indikera din uppfattning.

Komponenter	**Jag inkluderar följande komponenter i partnering**	**Mindre viktig (1)**	**(2)**	**(3)**	**(4)**	**Mycket viktig (5)**
Tillit/förtroende						
Gemensamma mål						
Incitamentskontrakt						
Moderator, objektiv mötesordförande						
Relationsbyggande, sociala träffar						
Återkommande och strukturerade möten						
Möjlighet att välja medarbetare i partneringgruppen						
Konfliktlösningsmetod						
Öppna böcker						
Uppföljning av de gemensamma målen						
Gemensam åtgärdsplan						
Andra komponenter som bör inkluderas (fyll i själv)						
_____						
_____						
_____						
_____						
_____						

3.2 Har du någon erfarenhet av partnering

- ☐ Ingen alls
- ☐ Liten (beskriv kort nedan)
- ☐ Stor (beskriv kort nedan)

……

……

……

……

……

……

Nedan gör vi ett antal påstående om partnering. Vi skulle vilja veta hur du, utifrån din situation, dina erfarenheter och bedömningar, ser på dessa påståenden. Sätt ett kryss i den ruta som bäst speglar din åsikt.

Påståenden	Instämmer inte alls	Instämmer delvis	Instämmer helt	**Ingen uppfattning**
3.3 Anbuden blir fler med partnering i jämförelse med traditionella projekt				
3.4 Anbuds priserna blir högre med partnering i jämförelse med traditionella projekt				
3.5 Det är lättare att uppnå föreskriven kvalitet om projektet genomförs med partnering i jämförelse med traditionella projekt				
3.6 Det är lättare att uppnå kostnadsbesparingar om projektet genomförs med partnering i jämförelse med traditionella projekt				
3.7 Det är lättare att uppnå tidsbesparingar om projektet genomförs med partnering i jämförelse med traditionella projekt				
3.8 Det är lättare att undvika konflikter mellan beställare och utförare om projektet genomförs med partnering i jämförelse med traditionella projekt				
3.9 Det är lättare att lösa konflikter mellan beställare och utförare om projektet genomförs med partnering i jämförelse med traditionella projekt				
3.10 Det är mer sannolikt att förbättringar av produktionsmetoderna i genomförandet uppkommer om projektet genomförs med partnering i jämförelse med traditionella projekt				

Påståenden	Instämmer inte alls	Instämmer delvis	Instämmer helt	**Ingen uppfattning**
3.11 Det krävs mer arbete med att ta fram förfrågningsunderlaget när projektet ska genomförs med partnering i jämförelse med traditionella projekt				
3.12 Det går åt mer tid/resuser för möten och diskussioner etc i genomförandet av ett projekt med partnering i jämförelse med traditionella projekt				
3.13 Partnering försämrar affärsmässigheten eftersom beställare och utförare ”vaggas” in i ett ”kompisförhållande”				
3.14 Beställaren har mer att vinna på partnering än utföraren				
3.15 Utföraren har mer att vinna på partnering än beställaren				
3.16 Partnering, eller liknande samarbetsformer, har kommit för att stanna				
3.17 Partnering är ett roligare sätt att arbeta				
3.18 Partnering är inte mer än ett modeord för projekt som annars genomförs med ”sunt bondförnuft”				

DEL 4. Övrigt

Något som bör tilläggas angående upphandling av partnering projekt.

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

Appendix 4, The contractor questionnaire

DEL 1. Allmänt

1.10 Vilket företag företräder du

……

1.11 Vilken roll har du i projektet

……

1.12 Hur många år har du arbetat i branschen

……

1.13 Är du ☐ Man ☐ Kvinna

1.14 Hur gammal är du ☐ <25
☐ 26-30
☐ 31-40
☐ 41-50
☐ 51-60
☐ 61<

1.15 Av vilken typ är det aktuella projektet

☐ Nyinvestering
☐ Drift och Underhåll
☐ Reinvestering
☐ Annan

Kort beskrivning av projektet i ord

……

……

……

……

1.6 b) Jämfört med andra projekt av samma typ som angivet ovan, skulle du kategorisera det aktuella projektet som

☐ Mer komplext
☐ Genomsnittligt
☐ Mindre komplex
☐ Ingen uppfattning

1.16 Hur stor är den upphandlade anbudssumman

……

och vilken upphandlingsform gällde

Under tröskelvärde:	Över tröskelvärde:
☐ Förenklad upphandling	☐ Öppen upphandling
☐ Urvalsupphandling	☐ Selektiv upphandling
	☐ Förhandlad upphandling

1.17 Hur många entreprenörer, utöver ditt företag, kunde förväntas lägga anbud på det aktuella projektet

……

1.9 Har ditt företag arbetat ihop med beställarorganisationen tidigare

☐ Ja ☐ Nej

Om Ja, hur många gånger	☐ 1-3
	☐ 4-10
	☐ 10<

1.10 Har beställare och utförare god kunskap om varandras organisationer och om personerna i respektive organisation

☐ Ja ☐ Nej ☐ Ingen uppfattning

1.11 Vilken entreprenadform upphandlas projektet som

☐ Totalentreprenad
☐ Utförandeentreprenad
☐ Funktionsentreprenad
☐ Annan

……

……

1.12 Regleras projektet av

☐ AB 92
☐ ABT 94
☐ Annan

……

……

DEL 2. Upphandlingen

Förfrågningsunderlaget

2.10 Är det i förfrågningsunderlaget fastställt att projektet kommer genomföras som partnering eller föreslås partnering som ett möjligt sätt att genomföra projektet

☐ Fastställt
☐ Som en möjlighet

Om ”Som en möjlighet”, på vilka grunder skulle ditt företag inte vilja genomföra projektet som partnering

☐ Min organisation saknar erfarenhet av partnering
☐ Beställaren saknar erfarenhet av partnering
☐ Personer som är ansvariga hos beställaren bedöms mindre lämpliga för partnering
☐ Andra

……

……

……

……

2.11 Finns det möjlighet att i avtalet häva partnering samarbetet efter en viss tid och genomföra projektet som ett traditionellt projekt utan partnering

☐ Ja ☐ Nej

2.12 Hur beskrivs partnering i förfrågningsunderlaget, sätt ett kryss i den ruta som bäst överensstämmer med beskrivningen enligt följande

Mycket detaljerad beskrivning	Ganska detaljerad beskrivning	Enbart övergripande beskrivning	Endast omnämnt, upp till utföraren att beskriva.	Beskrivs inte, endast omnämnt
☐	☐	☐	☐	☐

Om beskriven av beställaren, är partneringbeskrivningen att betrakta som bindande eller utgör den ett förslag på hur samarbetet kan genomföras

☐ Bindande
☐ Förslag

2.13 Erbjöds ett informationsmöte om partnering ☐ Ja ☐ Nej

2.14 Medför partnering ett större eller mindre risktagande för ditt företag, jämfört med traditionella projekt med samma ersättningsform

☐ Större ☐ Ingen skillnad ☐ Mindre

Ersättningsform

2.15 Vilken ersättningsform tillämpas i projektet

☐ Löpanderäkning
☐ Fastpris med mängdreglering
☐ Fastpris utan mängdreglering
☐ Riktkostnad och incitament med ersättning enligt löpanderäkning
☐ Annan

……..……

…….

Om Riktkostnad och incitament med ersättning enligt löpanderäkning, hur ska eventuell besparing eller fördyring i förhållande till riktkostnaden fördelas

Procent, Beställare/Utförare …….

……..……

…….

Framgår det ur förfrågningsunderlaget vilka omständigheter som föranleder ändring av riktkostnaden

☐ Nej
☐ Ja, vilka
- ☐ Ändrade systemkrav
- ☐ Ändrad funktion
- ☐ Tillägg eller avdrag av/från det beställda
- ☐ Fel i förfrågningsunderlaget
- ☐ Mängdförändringar
- ☐ Ändrad kvalitet
- ☐ Andra

……..……

……..

…….

…….

Framgår det ur förfrågningsunderlaget hur ett eventuellt underskridande av riktkostnaden hanteras av beställaren, dvs till vad går pengarna

☐ Ja ☐ Nej

om Ja, hur spenderas pengarna

……

……

2.16 Vilken är den vanligaste ersättningsformen vid liknade projekt som inte inkluderar partnering

☐ Löpanderäkning
☐ Fastpris med ersättning i klumpsumma
☐ Fastpris med ersättning enligt mängder
☐ Riktkostnad och incitament med ersättning enligt löpanderäkning
☐ Annan

……

……

▶ Om Riktkostnad och incitament med ersättning enligt löpanderäkning, hur ska eventuell besparing eller fördyring i förhållande till riktkostnaden fördelas

Procent, Beställare/Utförare …….

……

……

2.17 Finns det i den aktuella upphandlingen ekonomiska incitament/bonusar (bortsett från eventuell riktkostnad och kostnadsdelning)

☐ Nej
☐ Ja, vilka
☐ Tidsbonusar, att projektet ska bli klart innan utsatt tid
☐ Säkerhetbonusar, att undvika olyckor
☐ Andra

……

……

……

Anbudsbedömning

2.18 Utöver grundkraven i LOU, inkluderas mjuka variabler i anbudsvärderingen
☐ Ja ☐ Nej

Om Ja, vilka mjuka variabler är inkluderade och hur stort värde (i procent) har de enligt anbudsvärderingsmodellen i förhållande till anbudssumman

		Ange värde i procent
☐ A	Genomförandeplan för partnering	…….
☐ B	Organisation och ledning	…….
☐ C	Kompetens/erfarenhet	…….
☐ D	Produktionsmetoder	…….
☐ E	Kvalitetssäkringssystem	…….
☐ F	Miljöcertifiering	…….
☐ G	Arbetsmiljö	…….
☐ H	Trafiksäkerhet	…….
☐ I	Referensobjekt	…….
☐ J	Riskbedömning och åtgärdsplan	…….
☐ K	Andra	

……

……

……

……

DEL 3. Partnering

3.10 Vilka av följande komponenter inkluderar du i partnering och därefter hur pass viktiga anser du att de utvalda är enligt den fem gradiga skalan. Sätt ett kryss för att indikera din uppfattning.

Komponenter	**Jag inkluderar följande komponenter i partnering**	**Mindre viktig (1)**	**(2)**	**(3)**	**(4)**	**Mycket viktig (5)**
Tillit/förtroende						
Gemensamma mål						
Incitamentskontrakt						
Moderator, objektiv mötesordförande						
Relationsbyggande, sociala träffar						
Återkommande och strukturerade möten						
Möjlighet att välja medarbetare i partneringgruppen						
Konfliktlösningsmetod						
Öppna böcker						
Uppföljning av de gemensamma målen						
Gemensam åtgärdsplan						
Andra komponenter som bör inkluderas (fyll i själv)						
_____						
_____						
_____						
_____						
_____						

3.11 Har du någon erfarenhet av partnering

☐ Ingen alls
☐ Liten (beskriv kort nedan)
☐ Stor (beskriv kort nedan)

……

……

……

……

……

……

Nedan gör vi ett antal påstående om partnering. Vi skulle vilja veta hur du, utifrån din situation, dina erfarenheter och bedömningar, ser på dessa påståenden. Sätt ett kryss i den ruta som bäst speglar din åsikt.

Påståenden	Instämmer inte alls	Instämmer delvis	Instämmer helt	**Ingen uppfattning**
3.12 Anbuden blir fler med partnering i jämförelse med traditionella projekt				
3.13 Av två förövrigt identiska projekt skulle mitt företag vara mer intresserat av att jobba med det projektet som inkluderar partnering i jämförelse med det som inte inkluderar partnering				
3.14 Anbuds priserna blir högre med partnering i jämförelse med traditionella projekt				
3.15 Det är större spridning på de inkomna anbuden om projektet inkluderar partnering i jämförelse med traditionella projekt				
3.16 Det är lättare att uppnå föreskriven kvalitet om projektet genomförs med partnering i jämförelse med traditionella projekt				
3.17 Det är lättare att uppnå kostnadsbesparingar om projektet genomförs med partnering i jämförelse med traditionella projekt				
3.18 Det är lättare att uppnå tidsbesparingar om projektet genomförs med partnering i jämförelse med traditionella projekt				
3.10 Det är lättare att undvika konflikter mellan beställare och utförare om projektet genomförs med partnering i jämförelse med traditionella projekt				

Påståenden	Instämmer inte alls	Instämmer delvis	Instämmer helt	**Ingen uppfattning**
3.11 Det är lättare att lösa konflikter mellan beställare och utförare om projektet genomförs med partnering i jämförelse med traditionella projekt				
3.12 Det är mer sannolikt att förbättringar av produktionsmetoderna i genomförandet uppkommer om projektet genomförs med partnering				
3.13 Ett förfrågningsunderlag som inkluderar partnering medför sämre kalkylerbarhet				
3.14 Det går åt mer tid/resuser för möten och diskussioner etc i genomförandet av ett projekt med partnering i jämförelse med traditionella projekt				
3.15 Partnering försämrar affärsmässigheten eftersom beställare och utförare ”vaggas” in i ett ”kompisförhållande”				
3.16 Beställaren har mer att vinna på partnering än utföraren				
3.17 Utföraren har mer att vinna på partnering än beställaren				
3.18 Partnering, eller liknande samarbetsformer, har kommit för att stanna				
3.19 Partnering är ett roligare sätt att arbeta				
3.20 Partnering är inte mer än ett modeord för projekt som annars genomförs med ”sunt bondförnuft”				

DEL 4. Övrigt

Något som bör tilläggas angående upphandling av partnering projekt.

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……