Routledge
Taylor & Francis Group

Construction Management and Economics

ISSN: 0144-6193 (Print) 1466-433X (Online) Journal homepage: https://www.tandfonline.com/loi/rcme20

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To cite this article: Johan Nyström Corresponding author (2005) The definition of partnering as a Wittgenstein family-resemblance concept, Construction Management and Economics, 23:5, 473-481, DOI: 10.1080/01446190500040026

To link to this article: https://doi.org/10.1080/01446190500040026

Construction Management and Economics (June 2005) **23**, 473–481

The definition of partnering as a Wittgenstein family-resemblance concept

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Received 1 December 2003; accepted 25 November 2004

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 multifaceted concept of partnering in a flexible and structured way.

Keywords: Components, construction, definition, family-resemblance, general prerequisites, goals, partnering, Wittgenstein

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 realize that such a definition does not exist for this multifaceted concept.

Still there is a need for a common perception of partnering, as 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

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Construction Management and Economics
ISSN 0144-6193 print/ISSN 1466-433X online © 2005 Taylor & Francis Group Ltd
http://www.tandf.co.uk/journals
DOI: 10.1080/01446190500040026

trendy term to describe 'common sense' business relations. This paper 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 because 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.

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 conducted 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.

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 as 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 paper takes general prerequisites and goals as given and focuses on the components in trying to define partnering.

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

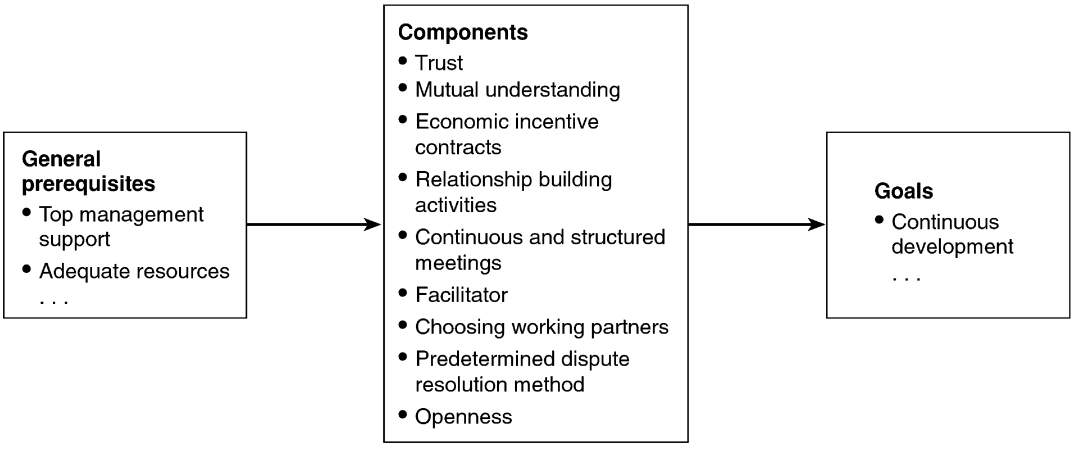

Figure 1 Distinction of partnering factors

number of activities characterized as games but he argues that a single, common feature for all of them is missing. Ball games such as 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, such as rules and competitiveness, remains and some fall off, such as 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 have the 'same' ears, but there is no characteristic common to all members of the family, still there is a bond between them (this description is based on Kenny, 1975 and Murphy, 1991).

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.

A presentation of the partnering components

The Wittgenstein approach could appear to be a little 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 premise 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, 13 well-reputed research reports and articles from scientific journals about partnering in construction, found mainly through cross-references, constitute the empirical base of the study. Although consultant- and best practice-reports most probably have had a major influence on the application of partnering, they were judged not to be included as many reports are referred to in the selected articles (an alternative method to find the components would have been to study actual partnering projects).

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 Table 1. An X in Table 1 indicates that the author has mentioned this component as an important part of the partnering concept.

According to the reviewed literature, *trust* and *mutual understanding* are the most important components [compare with Tyler and Matthews (1996), who in Table 2 have identified the common elements in 20 reviewed partnering papers]. 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 interpersonal trust and interorganizational trust (see Kadefors, 2004, for a latter type). There are complex relationships between all 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 as 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. Alternatives (1) and (2) do not require repeated interactions and can exist even in a

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

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 co-operative strategies from both parties (Lazar 1997, 2000; Cheung *et al.*, 2003).

Table 2 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

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-term consequence of these compromises is higher profits to both parties.

Even if companies are profit maximizing and therefore have different economical goals, there can still exist common goals in other respects such as, for example, safety, respect, pleasant 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 encourage 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, co-operation 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 such as personal development, influence, appreciation, a feeling of meaningful assignments, etc. can also improve efforts. In fact, it has been stressed that intrinsic rewards such as 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 of 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 preferably be held at a neutral location and have the nature of a social event. Teamwork education could also take place during the meeting. Returning 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 followed-up continuously if they are to serve any purpose. This is recommended to be carried out 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 have 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 become stuck on trivial, unconstructive matters. This governance of the meetings is said to be especially important at 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

Because 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 litigation 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 resolved in two ways, either productively or destructively (Mohr and Spekman, 1994). Settling a disagreement in court or with an internally designed dispute resolution board can only result in one winner, which characterizes 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 relationship 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 a 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 does not initiate a healthy partnering relationship (Humphreys *et al.*, 2003). At the same time it can be argued that open books are vital at the beginning of a business relationship as a signal of good will from the contractor when trust does not yet exist.

Analysing partnering as a family-resemblance concept

The partnering flower

Looking at the result presented in Table 1 it can be seen that there are actually 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 simply 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, first, it contains the two centre components and secondly, some of the petals, but there is no specific petal 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).

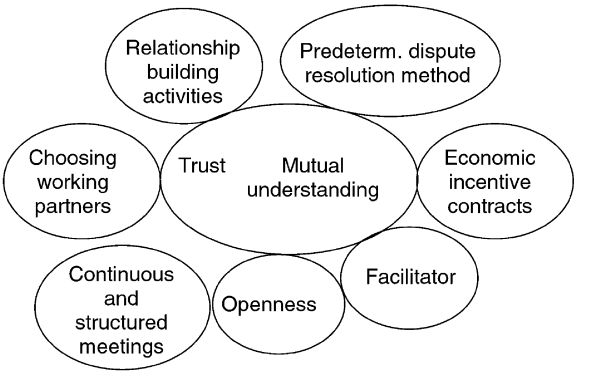

Figure 2 Partnering flower

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. Besides 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

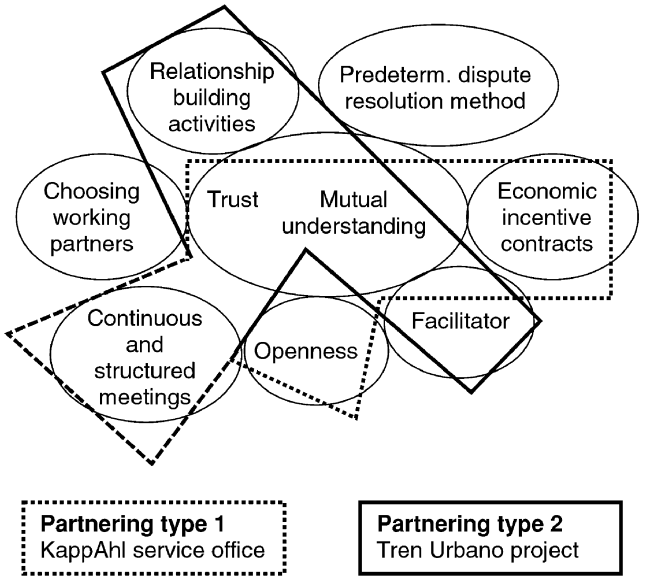

Figure 3 The applied partnering flower

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'.

Conclusions

Two contributions have been made in this paper. First, 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. Besides 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 (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).

Acknowledgements

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.

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