Practical difficulties encountered in attempting to implement a partnering approach

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Abstract

Purpose – The purpose of this paper is to present practical difficulties in attempting to implement a partnering approach.

Design/methodology/approach – The paper comprises empirical evidence from case studies in Norway and Canada and an extensive literature review on partnering.

Findings – The authors identified a lack of shared understanding of key partnering concepts, missing initial effort to establish shared ground rules, communication difficulties in inter-organizational relationships and unclear (perceived) roles and responsibilities. In existing partnering literature, a large number of construction studies have identified conceptual partnering models. However, studies that describe partnering models to take these practical difficulties into account have not been found and the paper develops a practical model that outlines the phases of a typical partnering effort.

Research limitations/implications – Partnering has both a legal/contractual side and a management/collaboration side. This paper looks at the management and collaboration aspects of partnering only.

Practical implications – The paper will be a very useful source of information and advice for project managers who are attempting to implement partnering in projects.

Originality/value – The paper presents organizational challenges and difficulties in attempting to implement partnering and a practical model which takes these difficulties into account.

Keywords Norway, Canada, Partnership, Organizations, Project management, Conflict management, Stakeholders, Partnering model, Collaboration in projects, Stakeholder management

Paper type Research paper

Introduction

From the 1990s and onward the construction industry faced strong critique, mainly addressed to its unsatisfactory financial performance and working culture, the latter characterized by conflict and distrust. Several researchers have documented the challenges in construction projects, thus making partnering an attractive approach for more effective collaboration (Jergeas and Hartman, 1994; Abudayyeh, 1994; Latham, 1994; Egan, 1998; Ng *et al.*, 2002; Cheung *et al.*, 2002, 2003; Zaghoul and Hartman, 2003;

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Bayliss *et al.*, 2004; Yiu *et al.*, 2011). Project partnering was suggested to overcome some of the problems hindering both the efficiency of construction work and the quality of the industry's deliverables (Cowan *et al.*, 1992; Abudayyeh, 1994; Egan, 1998). An insight central to project partnering is that price should not be used as the sole dominating criteria for supplier selection, but that the selection of suppliers should take into account how the different firms participating in the construction project can be expected to collaborate. Earlier research has provided support for the concept of partnering by demonstrating that a reliance on practices prioritizing price minimization does not necessarily ensure optimal value for money (Turner and Simister, 2001; Ahola *et al.*, 2008).

Research has also devoted attention toward identifying success factors for partnering in projects (Larson, 1997; Chan *et al.*, 2004; Lu and Yan, 2007a, b), discussing outcomes that may result from partnering (Cowan *et al.*, 1992; Abudayyeh, 1994; Larson, 1997; Bresnen and Marshall, 2000; Naoum, 2003; Humphreys *et al.*, 2003; Beach *et al.*, 2005) and partnering practices that have been applied in construction projects (Cowan *et al.*, 1992; Larson, 1997; Hobbs and Andersen, 2001; Bresnen and Marshall, 2002; Swan and Khalfan, 2007). Furthermore, empirical research has presented models or frameworks describing how to conceptualize or implement project partnering in different project contexts (Abudayyeh, 1994; Crane *et al.*, 1997; Crowley and Karim, 1995; Cheng and Li, 2001; Beach *et al.*, 2005; Wong *et al.*, 2008; Ross, 2009). Research has also focused on identifying or developing tools and practices that may support project partnering (Li *et al.*, 2001; Bayliss *et al.*, 2004; Vaaland, 2004; Swan and Khalfan, 2007) as well as tools for assessing the applicability of partnering for a specific project context (Lu and Yan, 2007a, b; Meng, 2010).

However, despite the considerable popularity of partnering-related research, contributions that present practical partnering models that can actually be applied in the construction industry are virtually non-existent. In addition, models presented in literature have generally been developed based on empirical evidence collected from one or two dominant firms involved in a partnering project (such as the owner or main contractor) – as opposed to involving the viewpoints of additional actors that play a slightly less central, yet important role in the partnering project (suppliers).

Case studies in Norway and Canada

This paper is based on empirical findings from case studies. The cases include four construction projects in Norway and one in Canada. The cases in Norway involved nine companies collaborating in these four projects, representing the owner, the contractor, the user, suppliers and sub-suppliers. In these, the owner had made the strategic decision to apply a partnering approach (Fjeldstad, 2004). The primary motivation for applying project partnering was to avoid the traditional costly conflicts characterizing construction projects. Similarly to the UK construction industry, the Norwegian construction industry had been criticized for the high cost of its deliverables, inadequacy of management skills, and severe conflicts in terms of goals among the involved actors (Arge, 2000). As a result of this critique, a clear industry-wide interest toward project partnering has been evident during the recent decade. In particular, the Norwegian construction companies have demonstrated a stronger focus on both the early phases of the project life cycle and conceptual development. However, prior to this study, it was unclear how, in practice, partnering was applied in the projects and whether partnering models presented in the literature could be used in the partnering projects.

The case in Canada was an infrastructure project (building a railway line) and the case companies were the owner, the contractor, the user, and suppliers. A partnering approach was initiated for the project, and the companies all committed to achieving the best possible result for the project ("we will be proud of the final project"). Common project success criteria were found in an early phase of the project, and "one project-one team" and a "yes-we can" attitude were two of the success criteria defined. The productivity level and trend in Canadian construction projects are still low compared to other sectors and recommendations from research has been that the industry should be more service-oriented and have a strong emphasis on communication. This has a significant impact on interactions between firms, increasing interdependencies and the need for a partnering approach (Manseau and Shields, 2005). Still, the partnering concept needs a continuous evaluation and development to ensure a positive outcome.

Our research question was defined as:

RQ. What are the organizational challenges in partnering projects and how can these challenges be addressed to ensure success in future projects?

Based on the answers to the research question, a further and more pragmatic objective of this paper is to introduce an empirically refined partnering model, developed based on both frameworks and models presented in literature and empirical observations in the case projects in Norway and Canada.

Limitations

Partnering has both a legal/contractual side and a management/collaboration side. This paper looks at the management and collaboration aspects of partnering only.

Literature review

Project partnering

Project partnering has been described as a strategy, or even a philosophy, which implies close collaboration and goal alignment between multiple firms involved in the project (Cowan *et al.*, 1992; Crowley and Karim, 1995; Larson, 1997; Halman and Braks, 1999; Bayliss *et al.*, 2003; Naoum, 2003; Chan *et al.*, 2004; Alderman and Ivory, 2007), long-term trust-based relationships between firms and individuals participating in the partnering project (Abudayyeh, 1994; Crowley and Karim, 1995; Naoum, 2003; Alderman and Ivory, 2007), mechanisms directed at avoiding conflicts during project implementation (Cowan *et al.*, 1992; Naoum, 2003; Clay *et al.*, 2004; Swan and Khalfan, 2007; Ross, 2009), and mechanisms promoting enhancement of both efficiency and innovation during the project life cycle (Cowan *et al.*, 1992; Bennett and Jayes, 1998; Naoum, 2003). Cowan *et al.* (1992) introduced the first holistic model of partnering, and introduced the difference between typical project relationships and partnering (Table I).

In summary, the typical contractor/owner relationship is characterized by win-lose strategies and mistrust, and partnering is based on the realization that the traditional win-lose adversarial relationship between owner and contractor degenerates into a costly lose-lose situation for both parties (Cowan *et al.*, 1992). For the purpose of this paper we accept the Construction Industry Institute's (CII, 1991) much cited definition of partnering as:

> [...] a long term commitment between two or more organizations for the purposes of achieving specific business objectives by maximizing the effectiveness of each

Typical partnership	Partnering
Limited partnership	Full partnership
Win-lose	Win-win
Adversarial problem solving	Joint problem solving
Independent project teams	Joint project teams
Risk transfer	Risk share
Develop the case	No claims
Conflicting objectives	Mutual goals
Process improvement not worth risk	Risk sharing on improvement

Table I.

participant's resources. This requires changing traditional relationships to a shared culture without regard to organizational boundaries. The relationship is based on trust, dedication to common goals and an understanding of each other's individual expectation and values.

Furthermore, researchers have frequently made a distinction between project partnering and strategic partnering. According to Cheng and Li (2001), the latter refers to achieving and attaining competitive advantage over the long term, while the former is more focused toward improving performance over the life cycle of a single project. In this sense, the two concepts differ mostly in respect to the time horizon the involved parties are committed to (Beach *et al.*, 2005).

The number of construction project claims and confrontations where energy is used in a non-productive manner is increasing and has become a time-consuming and costly element in construction projects (Jergeas and Hartman, 1994; Abudayyeh, 1994; Latham, 1994; Cheung *et al.*, 2003; Zaghoul and Hartman, 2003; Bayliss *et al.*, 2004; Yiu *et al.*, 2011). Research studies report that the construction business is characterized by a non-cooperative culture with hostile relationships and conflicting objectives leading to reduced productivity (Abudayyeh, 1994; Cheung *et al.*, 2002; Yiu *et al.*, 2011). The traditional relationship between clients and contractors has long been identified as a major source of these claims, disputes, and conflicts (Latham, 1994; Egan, 1998; Al-Momani, 2000; Jannadia *et al.*, 2000; Cheung *et al.*, 2003) which has been used as an explanation as to why partnering as a concept is necessary.

A considerable body of knowledge in partnering literature is centred around the question of which factors can be linked to success in project partnering. It has been argued that success in project partnering is supported by trust-based relationship between participating actors (Arge, 2000; Naoum, 2003; Schaufelberger, 2004), the presence of clearly agreed goals (Bennett and Jayes, 1998; Arge, 2000; Naoum, 2003), open and functional structures for communication (Mohr and Spekman, 1994; Arge, 2000; Schaufelberger, 2004; Chan *et al.*, 2004), a compatible organizational culture (Wilson *et al.*, 1995), and functional performance measurement and improvement systems (Crane *et al.*, 1999; Naoum, 2003; Yeung *et al.*, 2007, 2008).

Several articles have shed light on the outcomes that may result from project partnering. The use of project partnering has been linked to favourable changes in several measures that are typical in evaluating the success of a project, including satisfaction of involved stakeholders, meeting or exceeding project schedules, overhead costs, construction costs, and quality (Cowan *et al.*, 1992; Abudayyeh, 1994; Larson, 1997; Bresnen and Marshall, 2000; Naoum, 2003; Beach *et al.*, 2005). Furthermore, the use of project partnering has been associated with favourable development in various less

traditional, and objective, measures such as: amount of conflicts, safety, public relations, identification of new opportunities, effectiveness, and responsiveness to changing market conditions (Abudayyeh, 1994; Bennett and Jayes, 1998; Alderman and Ivory, 2007; Ross, 2009).

Considerable attention has been directed toward identifying and discussing practices that may be used to facilitate project partnering in different contexts. In particular, many authors have highlighted the central role of the formal partnering frame agreement, i.e. the document that defines the roles and responsibilities of actors participating in the project (Cowan *et al.*, 1992; Larson, 1997; Hobbs and Andersen, 2001; Bresnen and Marshall, 2002; Swan and Khalfan, 2007). In addition to clarifying the roles of the actors, the partnering agreement often specifies mechanisms for sharing risk and rewards in the partnering project (Halman and Braks, 1999; Bresnen and Marshall, 2002; Bayliss *et al.*, 2003). The role of a dispute resolution mechanism such as a board consisting of representatives from different participating firms has also frequently been emphasized (Cowan *et al.*, 1992; Larson, 1997; Halman and Braks, 1999). Pre-planned partnering workshops, aimed at establishing functional communication and collaboration between parties involved in a partnering project and agreeing on issues central to its success have also been proposed as a mechanism that is important, in particular in the early phase of the partnering project (Larson, 1997; Bresnen and Marshall, 2002; Beach *et al.*, 2005). In addition to formal mechanisms, several studies have highlighted the role of emergent or informal mechanisms for facilitating project partnering. Such informal mechanisms frequently emphasized in partnering literature include team building sessions, facilitated teamwork, informal networks, and integrated teams (Larson, 1997; Hobbs and Andersen, 2001; Bresnen and Marshall, 2002; Beach *et al.*, 2005).

Models for project partnering

Several researchers have presented models to conceptualize project partnering as a process involving multiple actors. Some of these models have been directed primarily at an academic audience (Crowley and Karim, 1995) while others have focused primarily on the practitioners (Cowan *et al.*, 1992). In the following, prominent models for project partnering are discussed, both to highlight their features and to identify differences between them.

Cowan *et al.* (1992) were first to introduce a holistic model for project partnering, encompassing both the conceptual (pre-project) phase and the implementation phase of the project. Their linear model starts with the selection of partners, and then proceeds to bonding the project management team and project stakeholders. During the implementation phase of the project, partnering activities, including joint evaluation, escalation, continuous improvement, and persistent leadership, are purposefully applied to ensure that the partnering project maintains its course. Finally, the partnering project is concluded by identifying lessons learned and reviewing accomplishments achieved in the project. Following the introduction of the model in 1992, Larson has later empirically tested the model with a sample of 291 construction projects and linked several elements of the model to project success variables (Larson, 1997).

Abudayyeh (1994) presented a project partnering model that emphasizes the importance of conflict prevention, development of positive relationships between actors participating in the partnering project, and creating a project-wide culture of working as a single team. The model is initiated with a project contract,

followed by clarifying the interest of participating actors in partnering effort. Following this activity, a considerable amount of emphasis is placed on the arrangement of a partnering workshop and creation of a partnering agreement between the parties. Only limited attention is directed toward partnering activities carried out during the implementation phase of the project.

Crowley and Karim (1995) presented a model for project partnering that focuses primarily on the temporary organization set up for the partnering project. This partnering organization leads to the creation of semi-permeable boundaries between organizations involved in the partnering project. Furthermore, the model emphasizes, in particular, the role of the owner, designer, and contractor in the organization and the dynamic interplay between these actors during the project life cycle. Finally, the model provides insights into the development of inter-organizational relationships between actors involved in a partnering project as this development is described as a three stage process involving: maintaining arm's length distance, merging boundaries, and finally opening of external boundaries.

Cheng and Li (2001) proposed a three phased model for project partnering including the following steps: partnering formation, partnering application, and partnering completion and reactivation. In addition, their model connects the completion of the partnering project to the formation of the next one, making it applicable to both project partnering and more long-term oriented strategic partnering. Furthermore, the model does not strongly emphasize the viewpoint of a single actor (such as the owner), but considers partnering from the viewpoints of all involved actors. The authors, however, provide only limited discussion concerning the partnering practices applied in each of the three phases.

Ross (2009) presented a model focusing in particular on the organization of a partnering workshop with the actors that participate in the partnering project. The model emphasizes, for example, the importance of shared values and the selection of a competent facilitator for the workshop. On the other hand, the model is less geared toward the implementation phase of the partnering project and formal issues such as the project charter.

To summarize, several models for project partnering have been presented in literature. Similarly to the concept of project life cycle (PMBOK, 2008), these models proceed from one phase to the next in a rather linear fashion. In addition, there are models emphasizing, in particular, the importance of the role of the owner (Cowan *et al.*, 1992; Abudayyeh, 1994; Crane *et al.*, 1997; Ross, 2009), but only a few models emphasize the roles of other central project actors (Crowley and Karim, 1995), or all project actors in the partnering project (Cheng and Li, 2001). The models also differ as to whether they address the entire life cycle of the partnering project (Cowan *et al.*, 1992; Abudayyeh, 1994; Crowley and Karim, 1995; Crane *et al.*, 1997; Cheng and Li, 2001) or are limited to a part of it (Abudayyeh, 1994; Ross, 2009). According to the authors of these models, they have been developed primarily based on the experiences and involvement with partnering projects and partnering literature (Crowley *et al.*, 1992). In addition, quantitative surveys have been carried out to evaluate the validity of some of the models (Larson, 1997; Cheng and Li, 2001).

Research methodology

We have chosen a case study approach for our research into difficulties encountered in implementing a partnering approach. This is partly based on our belief that more

research is warranted that follows real-life projects in detail to understand how their partnering efforts fare and which difficulties still exist, despite the knowledge contained in existing literature. Furthermore, we were asked by the projects owners of the case projects to conduct trailing research for the purpose of evaluating the effort and proposing possible improvements. Thus, an opportunity arose where we had access to several case projects from their very inception. As a result, a case study approach was the logical methodological choice.

Regarding the selection of cases, the initial sample consisted of one Norwegian project owner running four pilot projects to experiment with the partnering approach and one Canadian project owner running one partnering project. Although the number of projects in Norway was higher than from Canada, we deemed it important to secure experiences from at least two contexts/organizations. Conducting a cross-context analysis was though not feasible.

Five partnering projects were empirically observed following a qualitative case study approach (Yin, 1994). The primary aim for the empirical observation was to achieve a rich and holistic understanding of how the organizations involved in the projects carried out partnering in practice. In particular, we focused on finding answers to the following questions:

- What kind of organizational challenges had been observed by participating organizations?
- How would the participating organizations suggest these challenges should be addressed in future projects?

Under the Norwegian case organization, Statsbygg, data were collected from the following four large projects:

(1) The regional state archives in Bergen, engineering of addition to existing buildings, only engineering phase covered, partnering contract with engineering group.

(2) The Oslo district court in Oslo, refurbishment of existing building, total budget 40.5 million NOK (approximately US$7 million), partnering contract with main contractor.

(3) The Norwegian Institute for Public Health in Oslo, engineering of building new building, only engineering phase covered, partnering contract with engineering group.

(4) The national archives in Kringsjå, new building, total budget 188 million NOK (approximately US$33 million), target value contract with gain/loss sharing with main contractor.

The team of four researchers that collected the data carried out a total of 53 semi-structured interviews based on an interview guide and participated in 19 meetings directly related to project partnering. These meetings were plenary gatherings among the participants, but at the very beginning of the project as well as throughout the execution. The role of the researchers was to act as neutral observers during meetings, and later present and discuss conclusions with the actors involved in the partnering projects to verify the validity of obtained results. In each of the four projects, several organizations involved in the project participated in interviews,

meetings and focus group work to evaluate the findings. The informants interviewed were highly experienced individuals that represented leading organizations within the Norwegian construction industry, and possessed prior experiences from project partnering. Table II summarizes the characteristics of the four case projects in Norway and empirical data collected to study them.

In Canada, the case project was an infrastructure partnering project, where observations were carried out in the City of Calgary (Table III). The researcher that collected the data carried out four interviews with key members of the project management team, participated in a one-day workshop plus two-and-half day up-date sessions and ten health checks in addition to update sessions for new team members. The role of the researcher was to act as neutral observer during meetings, and later present and discuss conclusions.

The cases were researched using qualitative methods. Data collected were primarily in the form of statements, observations of meeting behaviour, and assessments of project success. The observed partnering practices and challenges related to partnering were coded to assess similarities and dissimilarities across projects. Key findings were condensed in the form of presentations delivered to project participants to verify their validity and to facilitate the generation of insights and ideas for the partnering model presented later in this paper.

Results

In this chapter, the partnering challenges that were observed in the studied projects are discussed. The challenges that, according to the informants, were hindering the partnering projects from achieving the best possible performance are presented. These results are later in the paper exploited to develop a refined model for project partnering.

Observed challenges in partnering

The organizational challenges in partnering projects can be found in Tables IV and V. The interviewees reported of confusion related to roles, responsibility, structure, and the partnering process. It seemed obvious that the partnering participants did not have the same perceptions or mind-set as to what partnering is, and it soon became evident that many challenges were related to a lack of a unified practical partnering model to be used in partnering projects. Together with the fact that none of the partners had the same definition of the term "partnering", there was a clear need for a process model to be followed in partnering projects. We have not been able to locate any such model in existing literature that could have been used to solve the challenges found in our cases.

These various difficulties are in themselves interesting findings. Although the case projects were to a large extent pilot projects, where the project owner experimented with the partnering approach, they were based on thorough preparations, study of available literature, learning from UK and Danish projects, and including suppliers with partnering experience. Despite this, they all ran into numerous practical difficulties in implementing the partnering approach, indicating that the existing body of knowledge still lacks more systematic and practical advice on how to design and run partnering projects.

These findings also prompted us to attempt remedying some of this shortcoming by developing a partnering model based on the observed difficulties.

Project	Regional state archives	District court	Institute for Public Health	National archives
Location	Bergen, Norway	Oslo, Norway	Oslo, Norway	Kringsjå, Norway
Time period	Started late 2005 – halted by owner prior to implementation phase	Started mid-2005 – delivered early 2007	Started early 2007 – halted by owner prior to implementation phase	Started in 2003 – delivered late 2005
Outcome/success of project	Unknown (project has not been completed)	Successful (according to the owner)	Unknown (project has not been completed)	Successful (according to the owner)
Phases of project life-cycle observed	Initiation, early planning	Planning and completion phase	Initiation, planning	Completion phase
Number of interviews carried out	8	16	15	14
Partnering project actors represented by interviewees	Owner representative, project manager, assisting PM, legal advisor, main contractor	Owner, main contractor, user, main architect, electrical contractor, two faucet system providers, engineering consultancy, maintenance	Owner, main contractor, project manager, user, main architect, engineering consultancy, electrical design and installation provider, faucet system provider	Owner, main contractor, main architect, engineering consultant, electrical contractor, user
Number of partnering-related meetings attended	3	4	12	0
Themes of partnering-related meetings attended	Objectives, working process, roles and responsibilities, communication climate, fundamental planning assumptions, uncertainty and risks	Project meetings, specific partnering meetings, interaction development meetings, analysis workshops	Project meetings, specific partnering meetings, interaction development meetings, analysis workshops	–
Project documentation analysed	Project mandate, collaboration agreement, formal contract, steering document (PM plan), tendering documents	Project goal document, collaboration agreement, partnering contract, project plan, bidding documents, project meeting memorandums	Project goal document, collaboration agreement, partnering contract, project plan, bidding documents, project meeting memorandums	Project goal document, collaboration agreement, partnering contract, project plan, bidding documents, project meeting memorandums

Table II.
Characteristics of the four case projects in Norway

Project	Canadian infrastructure project – railway
Location	The City of Calgary, Canada
Time period	Started late 2009, testing will be late 2012
Outcome/success of project	Unknown (project has not been completed)
Phases of project life-cycle observed	Initiation, early planning
Number of interviews carried out	Four with key members of the project management team
Partnering project actors represented	Owner representative, project manager, assisting PM, legal advisor, main contractor
Number of partnering-related meetings attended	Ten health checks
Number of workshops attended	One-day workshop plus two-and-half day update sessions
Themes of partnering-related meetings attended	Objectives, working process, roles and responsibilities, communication climate, fundamental planning assumptions, uncertainty, and risks
Project documentation analysed	Project mandate, collaboration agreement, formal contract, steering document (PM plan), tendering documents

Table III.
Characteristics of the case project in Canada

A practical model for project partnering

Based on our findings from both partnering literature and our empirical observations, there is a need for a concise practical model for project partnering. In this research, an explicit practical model was not found that could have been applied to direct the partnering process. Instead, the presence of an implicit model was uncovered, i.e. mindset and a new way of thinking and running projects, but no formal processes to guide the implementation of the partnering concept in projects.

By addressing the practical difficulties observed in the case projects, we have developed a model for project partnering in the construction industry. We believe it may help avoiding some of the challenges identified in the empirical study. The partnering model places special emphasis on partnering practices that were considered lacking by the informants. Simultaneously, the model directs focus toward areas which, based on our analysis, need improvement. Figure 1 shows the model.

The model is divided into five main areas:

(1) Establish the platform for the partnering approach; documents, contracts and appointments.

(2) Start-up of the partnering process (meeting).

(3) Execute the project based on the partnering process (continual process).

(4) Conclude the partnering project.

(5) Underneath these four phases of the partnering project is a "flower" of items that really apply to all the phases, but whose importance varies throughout the duration of the project.

The first part of the model is to establish a good basis for the collaboration. The partnering process is based on a set of contracts, appointments, and documents which define the partnering approach and each actor's role. Documents that affect the partnering approach are involved in the competitive tendering, the contracts signed, and descriptions of the working approach of the project. In all these documents, partnering should be defined; roles, definitions, and responsibilities. Many of the observed

Table IV.
Results from the four projects in the Norwegian case study

Project	Regional state archives	District court	Institute for Public Health	National archives
Observed partnering practices (project initiation)	Selection of members based on collaboration ability and willingness (in addition to traditional criteria) Early participation, relation building, common goals, open communication culture Fun and humour in meetings On-site inspection with all participants	Not observed	Early participation and involvement of all key actors in project initiation Relationship and goal development meetings Project goal document agreed and signed by all parties Open sharing of information Open discussion of difficult issues	Early participation and involvement of all key actors in project initiation Relationship and goal development meetings Clear agreement on how deficit/surplus is divided between central actors Open sharing of information Open discussion of difficult issues
Observed partnering practices (project implementation)	Not observed, project not built yet	Partnering and problem-solving meetings	Not observed, project not built yet	Partnering and problem-solving meetings Issues dealt with by searching for constructive solutions Continuous feedback from contractors to designers about "constructability" of their solutions
Observed partnering practices (project termination)	Not observed, project not completed yet	Not observed, project not completed yet	Not observed, project not completed yet	Gain sharing between owner and main contractor, but no gain sharing among main contractor and sub-contractors
Observed challenges	Lack of clarity in documents and plans (mix of concepts and words concerning partnering)	Lacking role definitions within the main contractor	Lack of strong leadership from owner	Dependent on actors that understand partnering

(*continued*)

Project	Regional state archives	District court	Institute for Public Health	National archives
	Some confusion over roles and responsibilities when altered from the traditional Unclear at "the edges" – who was part of the partnering and who was not (e.g. users and inspectors) Challenges in new ways of working as a team/vocal explanation Some challenges in making the team-based decision making work within a traditionally bureaucratic organisation	The engineering consultancy did not function properly Roles and responsibilities not clear Challenges and unclarity concerning words (partnering)	Lack of a defined problem-resolution process Meetings consumed resources and were not always carefully planned Meetings involved up to 35 persons – leading to difficulties in decision making Roles and responsibilities were not clear to all actors, leading to confusion Frequent personnel changes contributed negatively to actors' commitment	Vulnerable to key people leaving the project Many meetings are time consuming – do not see the reason for relationship building Some "quarrelling" at the close of the project about details Main contractor not sharing gains with sub-contractors – very negative

Table IV.

Project	Canadian infrastructure project – railway
Observed partnering practices (project initiation)	Early participation and involvement of all key actors in project initiation
	Common goals and objectives established in the project charter
	Common focus on the large number of stakeholders
	Issue resolution process defined
Observed partnering practices (project implementation)	Partnering and problem-solving meetings
	Issues dealt with by searching for constructive solutions
Observed partnering practices (project termination)	Not observed (project is not completed yet)
Observed challenges	Communication
	Lack of participation in problem resolution process
	Lack of clear roles and responsibilities
	Managing stakeholders – poor management of stakeholders (despite a common focus on stakeholders)

Table V.
Results from the Canadian case study

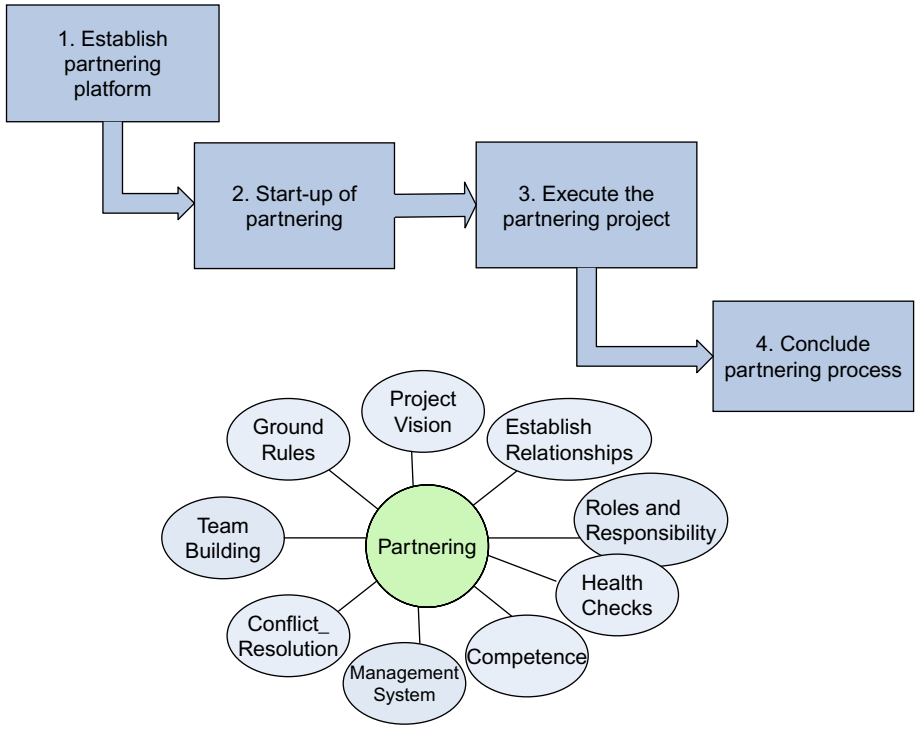

Figure 1.
The practical partnering model

Note: The partnering flower

problems in the case projects originated from lacking definitions and lacking shared understanding of the partnering concept. Referring to the "flower" of Figure 1, most attention in this phase should be paid to ground rules, the project vision, and putting in place a management system.

The next step is setting up the partnering process and getting off to a good start. To establish a good foundation for the collaboration in the project, the first partnering meeting is very important. The most important goal of this meeting is to set the entire partnering process on the right track. Who participates in this meeting is of great importance. Key people who will later be actively involved in the project must have the opportunity to participate. Such a meeting should last for a couple of days and the participants should be present through the whole meeting. The meeting requires a skilled facilitator who also knows partnering well. Creating a dialogue between the participants and an arena for discussion is important; a partnering meeting should be a natural arena where dialogue is based on trust and openness, and where participants can raise any topic related to the project.

An important element of the partnering start up meeting is the content of the meeting. Chan *et al.* (2006) refers to Latham's (1994) work from partnering projects in the UK. The important discussion topics are:

- mutual goal;
- the value of partnering;
- critical success factors;
- the relationships with the sub-suppliers;
- the partners strengths;
- obstacles for success;
- ideas on how to defeat the obstacles;
- ideas on how to get the partnering to function;
- the partnering document;
- action plan; and
- rules of the game.

From Figure 1, the most important aspects in this phase are agreeing on the ground rules, the project vision, establishing personal and organizational relationships, defining roles and responsibilities, and team building.

After the partnering meeting, the partnering process should be established, and the project should then be executed according to the partnering principles. However, people and organizations involved will tend to revert to "the old ways"; the project must be closely monitored to make sure the partnering approach is adhered to. If participants are replaced for any reason, this will influence the entire collaboration and it is extremely important that their replacements are brought up to speed about the project and the state of the partnering effort. In some cases, this might even warrant a less extensive repeat of the start-up meeting.

It is also important to keep in mind that the partnering process is a living "entity" in continuous development, and it needs to be nurtured to function optimally. During this phase, special attention should be paid to the following elements from Figure 1:

- Establish and revise the project vision, goals and objectives. Scope of work, risks, important stakeholders and key success factors should be defined as part of this process.

- Establish, strengthen and sustain the relationships. As part of this process it is important to make sure the relationships with key stakeholders are healthy.
- Roles and responsibility must be clear, at all times in the process.
- Health checks must be made regularly, to make sure that the partnering process and the partnering relationships are sound and according to plan.
- Competence: the partnering project must have access to the right competence and attitudes regarding partnering.
- The management system should take care of the partnering process and the product.
- Conflict resolution should be discussed to make sure that conflicts will be taken care of at an early stage.

The last part of the model is the closure/end of the partnering process. As the partnering project comes to an end, there are several areas that need to be handled professionally. One area that caused many difficulties in especially one of the case projects was the sharing of savings compared with the target cost, where an unfair distribution caused several actors to claim that the partnering effort was simply a means to securing cooperative project partners, but later on not sharing the gains jointly created. A careful review of the project is also important, both to improve the next project and to maintain a good impression of partnering as a concept among the participants.

The partnering process and the partnering model is a new way of organizing, running and managing projects that demands not only a change of mind-set, but also a practical model guiding a project in setting up and running a partnering-based project. We do not claim that the model shown in Figure 1 shows a dramatic breakthrough, but we do believe it adds to the partnering body of literature further practical advice that can be utilized by practitioners.

Concluding remarks

Through studying five case projects applying the partnering principles, we identified a number of practical difficulties faced by participating organizations; weak partnering platform from lack of shared understanding of key partnering concepts, missing initial effort to establish shared ground rules and interpersonal relationships, unclear (perceived) roles and responsibilities, no pre-defined problem-solving process in place, meetings seemingly held for the purpose of meeting, but without clear agendas and principles for representation, as well as other challenges. These are issues that any organization embarking on a partnering project should be aware of, and we believe these findings in themselves can help projects avoid some of the observed pitfalls.

To further aid future partnering projects, we have also designed a simple model that outlines the phases of a typical partnering effort and issues to be aware of within each of the phases. This model partly builds on earlier work by other authors and partly extends them by adding remedies for observed difficulties. This model, according to the discussions with our informants, should be directly applicable to partnering projects in the construction industry. The model has been presented in this paper, and we would be highly grateful if researchers and/or practitioners in other countries would apply it, test it, and report their findings to allow further refinement of the model.

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