Understanding how to succeed with project partnering

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Abstract

Purpose – In this paper we present new findings to organizations that acknowledge difficulties in implementing and succeeding with project partnering.

Design/methodology/approach – Our investigation is based on a case study where empirical evidence has been collected via semi-structured interviews of fifty-four professionals within the construction industry.

Findings – Based on our research we were able to identify three main dimensions vital for project partnering success, 1. *Who* related to *Participant selection*, 2. *What* related to *Task clarification* and 3. *Way* related to *Partnering means*. These dimensions give rise to what we have termed a 3W (*Who, What, Way*) model on how to succeed with project partnering in practice. The third dimension, *Way* related to *Partnering means,* was found to consist of the four subdimensions 3a. *partnering attitude*, 3b. *a collaborative culture*, 3c. *a holistic perspective* and 3d. *an accurate handover*.

Originality/value – We found 318 papers focusing on partnering, in these only 19 focused on how to succeed with project partnering. We have complemented the limited research on how to succeed with project partnering with fifty-four interviews of professionals. The majority of the existing research has focused on challenges. This paper contributes to the research gap by presenting a 3W model on how to succeed with project partnering.

Keywords – Project partnering, success factors, project management, infrastructure construction projects

Paper type – Case study

Introduction

The paper presents findings from a case study investigating factors on how to succeed with project partnering in a construction company. Currently, project partnering is a concept for value delivery throughout a project, defined by Walker & Lloyd-Walker (2015) as a business-to-business and relationship-based form of procurement based on the perspective of the project owner. There is no widely accepted definition of project partnering (Bygballe et al., 2010). Over time, project partnering has evolved from a management approach and voluntary joint workshops into an attempt to avoid construction disputes (Mosley et al., 1991). In addition, it has been used as a means for achieving continuous improvement (Bennett and Jayes, 1995).

However, organizations acknowledge difficulties in implementing project partnering (Alderman and Ivory, 2007, Aarseth et al., 2012), and fail to succeed fully with the concept. Furthermore, as is evident from our literature review, success factors for project partnering are unclear.

A difference exists between success factors and success criteria, making it important to distinguish success factors from success criteria as partly defined by Cooke-Davies (2002). Success criteria are measures against which success or failure of a project or activity will be considered, whereas success factors are factors added to a management system that directly or indirectly lead to a successful project. Whilst the terms are used interchangeably in the literature, our focus is on *factors that lead to project success* and not on how success is measured. How to succeed comprises factors which contribute to or influence prosperous partnering processes and outcomes in infrastructure projects.

Literature review

Partnering success factors

Partnering between organizations can range from loose tactical approaches to long-term alliances or joint ventures. Widely used definitions only indicate what partnering is. Examples are that partnering is '*a long-term commitment … for the purposes of achieving specific business objectives*' (Construction Industry Institute (CII), 1996), or '*a managerial approach to facilitate team working across contractual boundaries*' (Construction Task Force, 1998). Factors specific to project partnering include early involvement of contractors and dialogues to manage conflicts with the purpose of building trust (Mollaoglu et al., 2015, Eriksson, 2010, Lahdenperä, 2012), and joint objectives and joint risk mitigation between client and contractor in pursuit of improved performance (Walker and Lloyd-Walker, 2015). In this paper, we use the definition by Børve et al. (2017): *"Project Partnering is a relationship strategy whereby a project owner integrates contractors and other major contributors into the project. Through commitment to mutual project objectives, collaborative problem solving and a joint governance structure, partners pursue collaborative relationships, trust and improved performance."* Opportunistic behavior goes against the fundamental principles of partnering (Biong et al., 1994).

Project success in partnering is found to be multi-dimensional, where success criteria and success factors come together in complex causal interactions (Williams, 2016). Although questioned by Naoum (2003), partnering is documented to contribute positively to construction projects (Larson, 1997, Cheng et al., 2000, Bayramoglu, 2001, Chan et al., 2004, Jacobson and Ok Choi, 2008, Xue et al., 2010, Tabish and Jha, 2011, Suprapto et al., 2015b). In our literature review, we found 'trust', 'communication', 'commitment', 'collaborative

problem-solving' and 'mutual project objectives' to be the most frequently stated partnering success factors.

The purpose of this theoretical section is to offer a guide to background literature to understand the success factors described in literature.

Trust

Trust varies in literature over 'mutual trust' (see e.g. Cheung et al. (2003)) into the more specific 'system-based trust (satisfactory terms, alignment, adoption of alternative dispute resolution)' (Wong and Cheung, 2005) and 'inter—firm trust' by Lau and Rowlinson (2009). Trust is by partnering researchers described as a prerequisite (Construction Industry Institute (CII), 1991, Kaluarachchi and Jones, 2007, Aarseth et al., 2012), a measure (Chan et al., 2004, Meng, 2012, Mesa et al., 2016), an objective (Construction Excellence, 2009, Cheung et al., 2003) or an outcome (Eriksson, 2010). Implicitly the factors of trust refer to involved partners (Cheung et al., 2003, Lau and Rowlinson, 2009, Meng, 2012, Wong and Cheung, 2005), although Kaluarachchi and Jones (2007) require trust between 'all stakeholders'. Furthermore, trust is related to the no-blame factors (Walker and Lloyd-Walker, 2015, Meng, 2012, Suprapto et al., 2015c) when legal conflict is a contractual option only after the occurrence of gross negligence or criminal offence. In a no-blame contract, partners have to trust intentions.

Communication

Factors of communication varied in literature from just 'communication' (Cheung et al., 2003, Doloi, 2009, Meng, 2012) via 'effective communication' (Black et al., 2000) to 'open and honest communication' (Suprapto et al., 2015c). In this group we have also included the factor 'permeability of partners', which comprises communication, information flow and openness (Wong and Cheung, 2005). Kaluarachchi and Jones (2007) utilized the term 'early contractor involvement' to explain 'effective communication'. The factors encompassed in

the communication group are all means for achieving partnering goals. However, it is unclear with whom to communicate and what the specific objectives pursued by implementing the communication means are.

Commitment

The third most frequent factor is under the headline of commitment. The type or direction of commitment varies, however, from 'commitment to teamwork' (Larson, 1997), 'commitment from senior management' (Black et al., 2000) to 'long-term-' and 'resource commitment' (Cheung et al., 2003). The commitment factors are close to 'top management support' (Cheng and Li, 2001, Larson, 1997, Suprapto et al., 2015c) as a kind of internal or external commitment. To have something to lose, or in short 'equity' (Bresnen, 2007, Du et al., 2016), is also related to commitment. The commitment factors are often emphasized in the literature we have investigated, however it is unclear which partners to choose, the purpose, the time horizon or even the intensity as compared to e.g. regular PM.

Collaborative problem-solving

Collaborative problem-solving is a known success factor for project partnering. Formulations used to describe the factor vary from 'joint risks' (Doloi, 2009), 'conflicts' (Cheng et al., 2000) to the broad 'problems' (Bennett and Jayes, 1995, Cheung et al., 2003, Kaluarachchi and Jones, 2007, Meng, 2012, Du et al., 2016). The collaborative problem-solving factors are means aimed at mitigating risks for the parties involved. The broader 'joint governance structure' (Walker and Lloyd-Walker, 2015) applies to both project risks and opportunities. Hence, the joint governance structure aims at value creation by capturing the value of opportunities and not merely avoiding conflict by mitigating risks by collaborative problem-solving.

Mutual project objectives

'Mutual project objectives' are in literature described using little variation in wording. Examples are 'mutual', 'joint', 'common or shared objectives' or 'goals'. The term 'objectives', which are measurable, is used more frequently than the more intangible 'goals'. The term 'measurable objectives' fits well with the 'continuous evaluation' and 'annual review of performance' emphasized by Bennet and Baird (1995). Benchmarks are highlighted by Bresnen (2007), and the concept of partnering evaluation has been developed into 'performance measurement' by Meng (2012).

To sum up, in Table 1 we present the five groups of success factors identified and the corresponding literature references where the factors were found.

Table 1: Groups of success factors and references	
Group	**References**
Trust	Associated General Contractors of America (1991), Construction Industry Institute Australia (Partnering: Models for Success 1996) Cheng, Li, and Love (2000) DeVilbiss and Leonard (2000), Black et al. (2000), Kumaraswamy and Matthews (2000), Cheng and Li (2001), Cheung et al. (2003), Wong and Cheung (2004), Wong and Cheung (2005), (Kaluarachchi and Jones, 2007), Doloi (2009), Lau and Rowlinson (2009), Meng (2012), Suprapto et al. (2015), Suprapto et al. (2015), Du et al. (2016)
Communication	Associated General Contractors of America (1991), Sanders and Moore (1992), Bennett and Jayes (1995), Black et al. (2000) Cheng, Li, and Love (2000), Cheng and Li (2001), Cheung et al. (2003), Chan et al. (2004), Wong and Cheung (2004), Wong and Cheung (2005), Kaluarachchi and Jones (2007), Doloi (2009), Meng (2012), Suprapto, Bakker, Mooi and Moree (2015), Du et al. (2016), Du et al. (2016), Smith and Thomasson (2016)
Commitment	Associated General Contractors of America (1991), Construction Industry Institute Australia (Partnering: Models for Success 1996), Larson (1997), Black et al. (2000), Kumaraswamy and Matthews (2000), Cheng, Li, and Love (2000), Cheung et al. (2003), Chan et al. (2004), (Kaluarachchi and Jones, 2007), Du et al. (2016), Smith and Thomasson (2016)
Collaborative problem-solving	Sanders and Moore (1992), Bennett and Jayes (1995), Construction Industry Institute Australia (Partnering: Models for Success 1996), Kumaraswamy and Matthews (2000), Cheng, Li, and Love (2000), DeVilbiss and Leonard (2000), Cheung et al. (2003), Chan et al. (2004), Doloi (2009), Du et al. (2016)
Mutual project objectives	Associated General Contractors of America (1991), Sanders and Moore (1992), Bennett and Jayes (1995), Construction Industry Institute Australia (Partnering: Models for Success 1996), Kumaraswamy and Matthews (2000),

	Cheung et al. (2003), Meng (2012), Suprapto, Bakker and Mooi (2015), Du et al. (2016), Smith and Thomasson (2016)

Literature assessment

As represented above, few studies have been done on how to succeed; only 19 papers out of 318 published papers on partnering were found on this topic. To gain more insight, we therefore supplemented the literature review with semi-structured interviews of fifty-four professionals. Let us proceed to the research methodology.

Research methodology

We have chosen a case study approach to address our overall research question stated as:

RQ: How to succeed with project partnering in a project-based organization?

The case was researched using a qualitative method, and the qualitative data were collected from semi-structured interviews (Mason, 2017). We set out to identify factors perceived central to succeed with project partnering in a case company (CaseCo). This aim was achieved by interviewing fifty-four experienced persons having various roles in various construction projects by asking the two broad questions:

1) What specific partnering challenges does one face in CaseCo?

2) What factors do you consider important to succeed with project partnering?

CaseCo, a leading expert in infrastructure construction with six years of experience with partnering projects and with more than 30 percent of the contracts in its particular USD 3.6 billion market, requested to be unnamed and anonymous, to which we adhered.

The research strategy of this study is a single, qualitative, descriptive (Yin, 2014) and intrinsic case study with an inductive research design based on Yin (1994). The research results have been obtained by qualitative methodology (Phillips and Pugh, 2010). The factors identified have been derived through applying theories and methods across project management, project partnering research methodology (Phillips and Pugh, 2010).

According to Yin (2014), using a case study is an appropriate approach while searching to understanding a phenomenon, and particularly appropriate when the research question starts with 'How?'. A literature review, consisting of several stages, was done both before and after the interviews were conducted to gain insight into the phenomenon studied. We searched in five high-ranking journals (Table 2). In the first stage, we searched for 'project partnering' and closely associated concepts such as 'strategic partnering' and 'alliance partnering' (papers found in initial search), then we combined these with a combination of 'succeed', 'success' and 'factors' (how to succeed in partnering – relevant for this paper).

Table 2: Literature search results			
Journal	Papers found in initial search	Relevant for construction industry and topic	How to succeed with partnering - relevant for this paper
Project Management Journal	76	3	3
Int. Journal of Project Management	179	29	8
Int. Journal of Managing Projects in Business	15	2	1
Engineering, Construction and Architectural Management	18	10	3
Journal of Management in Engineering	30	4	4
Total	**318**	**48**	**19**

During the second stage, we speed-read abstracts and results of 318 papers, out of which 48 papers were found to be relevant for the construction industry and topic. Finally, we found 19 papers relevant for the research in this paper. The majority of the public research is focused on the challenges more than on how to do something about them. That only 19 papers have

been published on this theme confirms that there is insufficient existing research on this topic. Derived from the literature review, we found six additional papers published in the journal *Construction Management and Economics* that were relevant for this research.

In our case, the phenomenon investigated was project partnering. The interviews were conducted in a research project in one organization and we only had access to interview objects from this organization. Fifty-four semi-structured interviews were conducted as a sole source of information in order to get comprehensive information in the complete organization and value chain. Formal consent to data collection and storing was obtained from the Norwegian Centre for Research Data. The research was conducted in accordance with the national standard code of research ethics and the specific ethical guidelines for science and technology (The National Committee for Research Ethics in Science and Technology, 2008).

Experienced persons, Table 3, representing the entire company value chain, were interviewed about project partnering in the company.

Table 3: List of interview objects					
Interview object	Years of experience	Region	Department	Current role	M/F
1	<10	X	F	department manager	M
2	<10	X	D	department manager	M
3	10 - 20	X	F	department manager	F
4	<10	X	E	department manager	F
5	<10	X	F	construction manager	M
6	10 - 20	X	A	Adviser	M
7	20+	X	D	department manager	M
8	<10	X	F	department manager	M
9	<10	X	F	Planner	F
10	20+	X	C	project manager	M

11	10 - 20	X	C	construction manager	M
12	10 - 20	X	A	Planner	M
13	<10	X	A	Planner	F
14	<10	X	B	(HR)	F
15	<10	X	B	Lawyer	F
16	<10	X	B	Economist	M
17	10 - 20	X	B	Adviser	F
18	10 - 20	X	C	project manager	F
19	20+	X	C	project manager	M
20	20+	X	C	construction manager	M
21	<10	X	C	construction manager	M
22	20+	X	D	project manager	M
23	<10	X	D	project manager	F
24	20+	X	D	department manager	F
25	10 - 20	X	D	Adviser	F
26	<10	X	E	Controller	M
27	<10	X	E	Controller	F
28	<10	X	E	Controller	M
29	<10	X	E	Controller	F
30	20+	X	F	construction manager	M
31	<10	X	F	construction manager	M
32	20+	X	F	construction manager	M
33	<10	X	F	construction manager	M
34	10 - 20	X	F	Planner	F
35	20+	X	F	construction manager	M
36	<10	Y	C	project manager	M
37	20+	Y	C	construction manager	F
38	10 - 20	Y	C	construction manager	M
39	20+	Y	C	construction manager	M
40	<10	Y	C	project manager	M
41	<10	Y	C	construction manager	M
42	<10	Y	C	construction manager	M
43	20+	Y	C	project manager	M
44	<10	Y	C	construction manager	M

45	10 - 20	Y	C	construction manager	F
46	20+	Y	C	project manager	M
47	10 - 20	Y	C	project manager	F
48	<10	Y	C	construction manager	M
49	20+	Y	C	project manager	M
50	<10	Y	C	construction manager	M
51	20+	Y	C	project manager	M
52	20+	Y	C	project manager	F
53	<10	Y	C	construction manager	M
54	<10	Y	C	construction manager	F
54 interview objects	**<10 y: 27** **10-20 y: 11** **20+ y: 16**	**X: 35** **Y: 19**	**A: 3** **B: 4** **C: 25** **D: 6** **E: 5** **F: 11**	**construction manager: 20** **project manager: 13** **department manager: 7** **controller: 4** **planner: 4** **adviser: 3** **(HR): 1** **lawyer: 1** **economist: 1**	**M: 35** **F:19**

Among the interviewees, 35 percent were women, and all interviewees were employed in two of the five CaseCo regions. 25 of interviewees worked in department C (one of two departments in charge of project implementation in CaseCo).

The interview objects were asked to participate in a 45-minute to one-hour interview after having reflected on the two questions: 1) What specific partnering challenges does one face in CaseCo? and 2) What factors do you consider important to succeed with project partnering?

All information was to be treated confidentially and data was ensured to be presented in aggregated form only. All interviews were conducted over a period of four months. In all interviews, the participant was asked to say something about the organization in which s/he was employed, what s/he was working on and how long s/he had been employed by the

organization. Each interview object was encouraged to speak freely on the questions. If something was unclear, the interviewer asked control questions to confirm his or her understanding of each interview object's meaning. In connection with each interview, a summary was written which the interviewees were then asked to read to ensure consistency with what had been said.

We used pattern matching for data analysis (Yin, 1994). We also transferred data to MS Excel to enable additional counting and comparison. The first 11 interviews were analyzed to determine if the interviewees repeated a pattern of specific factors. After this initial round, we identified various success factors that could be assigned to a *Who*, *What* or *Way* dimension by the 11 first interviewees. We also found that four success factors constituted subdimensions of the *Way* dimension. When all the data had been analyzed, we still had three main dimensions emphasized by the vast majority. We went through the data again to ensure that we had not missed any important aspects. Finally, we realized that the findings could be systematized in a three-dimensional model along the main dimensions of *Who*, *What* and *Way*. The main dimensions and subdimensions were communicated to all interviewees by e-mail, with links to the interview report. With a few exceptions, everyone approved the e-mail content. A few interviewees offered minor comments that we address in the discussion section.

We tested the dimensions on relevant audiences to get feedback and to make sure our findings were consistent with how the employees in CaseCo perceive them. First for the management in region X and Y. Then three times in region X, once in department F and twice in connection with major company gatherings of employees in CaseCo.

To analyze the factors found, we used a basic framework with a basic *who*, *what*, *when*, *where*, *why* and *how* breakdown (5W1H). We simply ask who and why, what and why, when and why and so on. In earlier business research, this approach has beenapplied to labeling the objective of project business cases, continuous improvement (kaizen) and quality

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management (Nedyalkov, 2010). In our research, the '*why*' is related to the purpose of achieving successful partnering projects. Hence, we apply *who*, *what*, *how*, *when* and *where* as our basic framework for factor analysis in the literature review and in the results and discussion sections. To limit our study, we only investigate the management and collaboration aspects of partnering.

Project partnering in CaseCo

Project partnering was introduced to CaseCo in 2010 with the three specific partnering goals of improving the basis for good relationships between client and contractor (the parties), to create trust between the parties, and to inspire the technical development of projects. They relate to the basic principles of partnering - commitment, trust, respect, communication and equality - designed to protect the interests of all parties at all levels (Chan et al., 2003, Cowan et al., 1992).

CaseCo is a project-based organization concentrating its attention exclusively on the relationship between client and contractor, and excluding internal and external stakeholders in the value chain from partnering activities. Internal departments, inter alia Planning, Design, External Affairs and Finance and Maintenance, were not integrated into the partnering activities. External stakeholders, such as the Ministry of Transport and Communications, counties, municipalities, consultative bodies, subcontractors, the National Rail Administration and emergency response units, all had strong influence on and interest in the projects, albeit not involved. These are just some of the organizations, departments and employees who were mutually dependent on delivering the agreed products and services at the right cost, time and quality. On this basis, CaseCo requested research-based insights into how to succeed with project partnering. As a result, a case study approach was the logical methodological choice.

Findings from the interviews

The research question was as follows: How to succeed with project partnering in a project-based organization?

Based on our case study we identified various success factors that could be assigned to a *Who*, *What* or *Way* main dimension for achieving project partnering success, whereby *Who* related to *Participant selection*, *What* related to *Task Clarification* and *Way* related to *Partnering means.* In addition, we found that 3a. *partnering attitude*, 3b. *a collaborative culture*, 3c. *a holistic perspective* and 3d. *an accurate handover* constituted subdimensions of the *Way* dimension on how to succeed with partnering (Table 4):

Table 4: Three main dimensions and four subdimensions

1. *Who - Participant selection* 44 of 54 (81%)	2. *What - Task clarification* 43 of 54 (80%)	3. *Way - Partnering means* 46 of 54 (85%)
		3a. *Partnering attitude* 46 of 54 (85%)
		Show respect
		Proactive relationship building
		Prevent opportunistic behavior
		Build trust
		Partnering consistently throughout the project
		Be solution-oriented
		Practice formal two-way communication between the parties
		Participate wholeheartedly
		Create cohesion
		Openness between the parties
		3b. *A collaborative culture* 35 of 54 (67%)
	Common understanding of the task	Collaborate, not only coordinate
	Expectation clarification	Use time and resources for partnering
	Roles and responsibilities clarification	Early involvement
	Clear and distinct goals and objectives	Use collaboration tools and partnering models
		Having acquired partnering competence - why and how
		Acknowledge interdependence
		Management, both by client and contractor, support of partnering
		3c. *A holistic perspective* 23 of 54 (57%)
Involvement of multiple departments :		Have an understanding of each other's subjects/look beyond their own disciplines
		Unified client
Internal departments: Planning, Design, External affairs, Finance and Maintenance		Understand the totality
		Have people with partnering skills in all parts of the value chain in the organization
External stakeholders: The Ministry of Transport and Communications, counties, municipalities, consultative bodies, subcontractors,		**3d. *An accurate handover*** 20 of 54 (37%)
The National Rail Administration, emergency response units		Talk to people who have been involved earlier in value chain
		Get ownership of the project
Know your key stakeholders		Maintain accurate and important information between phases in value chain
		Use procedures and convey important and correct information

Who - Participant selection

In summary, the *'participant selection'* dimension included:

- Involvement of

  Internal departments: Planning, Design, External Affairs, Finance and Maintenance

  External stakeholders: The Ministry of Transport and Communications, counties, municipalities, consultative bodies, subcontractors, The National Rail Administration, emergency response units

- Know your key stakeholders

'Participant selection' is emphasized in 44 of 54 interviews. It is the second most frequently mentioned main dimension for successful partnering. Interview objects stated that it can be challenging to involve too many, as this may quickly result in unmanageable conflicts of interest.

> *'If you include too many people from too many disciplines, different interests clash, which quickly results in a conflict of interest in the first place. Interests in a certain discipline gain ground, even though the intention was something else.'*

> -No. 5-

It was mentioned that with too many participants recurrent discussions often occur; this takes unnecessary time, which in turn hinders efficiency:

> *'When the opportunity to have objections has passed, it is over. We spend too long because there are too many conflicting processes.'*

> -No. 4-

Risk of conflicts of interest causes reduced involvement. Wide involvement is essential in partnering. As stated by no. 25:

> *'We are not being used as a collaborator. Silos internally can be a major challenge because the internal departments and people do not interact with us.'*

<div align="right">-No. 25 -</div>

Silos refers to internal departments not cooperating. The interviewees also stated frequently that many actors must be involved. No. 9 pointed out that it presupposes that one must *'know who you need to talk to'.* In other words, the project must know who its key stakeholders are and involve the appropriate internal and external parties at an early stage.

Everybody has a responsibility to involve himself or herself in partnering activities, as no. 24 pointed out: *'all are responsible for partnering. We believe that some participants are responsible, but that is incorrect. '*

What - Task clarification

In summary, the *'task clarification'* dimension included:

- Common understanding of the task

- Expectation clarification

- Roles and responsibilities clarification

- Clear and distinct goals and objectives

In 44 of 54 interviews, the interview objects responded that it is important to achieve a common understanding of the objectives, identify how the parties think and how tasks are considered solved:

'Ensure that there is an agreed common understanding of the order.'

-No. 22-

'Common understanding of working towards the mutual goal.'

-No. 7-

A common understanding requires being sufficiently present in an early planning phase because this is when many of the terms are mutually accepted. Here, participants must dare to talk about ambiguities and be willing to listen to what others have to say. A good description of the working approach of the project provides a good basis for the work and simplifies the work in the implementation phase. No. 1 told in the interview that: *'a clear order in an early stage'* is important to succeed. It is therefore important to use resources in an early stage to ensure that projects have the best basis, allocating rather too much time and resources than too little to planning.

'Have a good foundation to work with and come through work in a good way. So we do not get conflicts constantly and must seek solutions in retrospect.'

-No. 11-

The main dimension *'Task clarification'* also includes expectation clarification:

'Clarify expectations, be keen to discuss what expectations each party has. Could have been easier for us to make decisions based on it.'

-No. 7-

Interview objects also emphasized the importance of good role clarifications:

'The most important thing is to get a proper clarification of roles, who should do what and who is responsible for what, especially internally, but also vis-à-vis external

stakeholders. Secondly clarify the process, describe what should be done and who

should do it.'

<div align="right">-No 8-</div>

Role clarification requires an open discussion of the expectations of each party, thus gaining an understanding of each other. Moreover, everyone must know their role and responsibilities in their projects. The challenges originated from lacking definitions. No. 4 said this about clear definitions and roles on how to succeed with partnering - be clear and precise in relation to *'who decides and who orders in addition to role clarification between project owner and project manager.* Another interview object stated that:

> *'Expectations towards all our partners, local and regional authorities, neighbors,*
>
> *users and landowners. Interact and agree on what expectations we have and*
>
> *understanding of each other.'*

<div align="right">-No. 10-</div>

This calls for the right people and the right disciplines being involved at the right time.

Several interview objects stated that the project costs must be clarified. No. 3 complained that *'one cannot see the framework or mandate for the project you are involved in'.* No 4 expressed an answer to the complaint: '*It is pivotal that the ordering and execution have been clarified and agreed on the framework of the project.'*

Way - Partnering means

The main dimension *Way* related to *Partnering means* was found to consist of the four subdimensions 3a. *partnering attitude,* 3b. *a collaborative culture*, 3c. *a holistic perspective* and 3d. *an accurate handover*.

<div align="center">20</div>

In summary, the subdimension *'partnering attitude'* included:

- Show respect

- Proactive relationship building

- Prevent opportunistic behavior

- Build trust

- Partnering consistently throughout the project

- Be solution-oriented

- Practice formal two-way communication between the parties

- Participate wholeheartedly

- Create cohesion

- Openness between the parties

46 of 54 interview objects expressed that the subdimension *'partnering attitude'* is most important and entails respecting each other and understanding that everyone is important for success. No. 9 recognized the problem of different statuses in the organization: *'There is greater status in regulating and building than in planning and management, operation and maintenance.'*

> *'The fact that participants disagree can be positive, but the goal of the partnering must be that they will come forward to something common.'*
>
> -No. 5-

> *'All internal professional resources that are involved in the project can make wishes but must respect that someone is making a decision.'*
>
> -No. 1-

This is all about having respect for each other and each other's opinions and knowledge of each other's role internally. Professional resources must know that they will be contributing actively, showing respect and understanding for each other, and that they must focus on being solution-oriented rather than problem-oriented. Having respect for each other also applies externally:

> *'We can act slightly arrogant facing many of the participants. They may feel a bit overrun. Respect for those involved.'*

> -No. 10-

The subdimension *'partnering attitude'* also denoted building good relationships in the client - contractor relationship; a good relationship can be fruitful. No. 10 said: '*With a good relationship we focus on the task and implementation, and then solve the problem without necessarily solving the problem in detail.'*

Essential for the subdimension *'partnering attitude'* is also to create trust. According to No. 21: *'Create trust between the client and the contractor's organization'* without hidden agendas. Although one initially agreed on procedures for solving ambiguities, it may happen that parties act differently:

> *'...but it is conceivable that the contractors sometimes do not actually want to clarify all circumstances to build up a negotiation to final settlement.'*

> -No. 1-

Opportunistic behavior goes against the fundamental principles of partnering. According to No. 5: *'If someone has a 'laid back' attitude, it will not be beneficial.'* Both parties must participate wholeheartedly and not work against each other:

'The knowledge is on both sides, by the contractor and the client. Create a system where it can be utilized by not working against each other.'

<div align="right">-No. 11-</div>

'When something extraordinary happens, we must meet. Good communication is important and we must be open with each other.'

<div align="right">-No. 1-</div>

According to no. 19, CaseCo must focus on using the appropriate individuals internally: *'those who build trust.'*

How the parties meet the outside world is crucial. Focus must be on making each other good. According to no. 21: *'Two-way communication. Talking each other up rather than talking negatively to each other.'* This is further stressed by no. 26: *'I feel that I am now trying to do partnering activities, but it cannot be unidirectional. The other must take the initiative, two-way communication; they also need to be proactive.'*

When client and contractor meet, both must have a clear objective of achieving good cooperation. This also applies internally. No. 6 pointed out: *'Individuals who interact internally must have a clear and distinct goal, focus and interest in the best possible cooperation and projects.'*

In practical terms, this means for example that the client must speak positively about the contractor, and vice versa. Openness from both parties (client and contractor), two-way communication and personal chemistry constitute the base. Generally, there must be a mutual desire to collaborate, communicate and build good relationships, and this requires that the parties keep each other mutually informed based on respect, understanding and openness.

In summary, the subdimension *'a collaborative culture'* included:

- Collaborate, not only coordinate

- Use time and resources for partnering

- Early involvement

- Use collaboration tools and partnering models

- Having acquired partnering competence - why and how

- Acknowledge interdependence

- Management, both by client and contractor, support of partnering

35 of 54 interview objects denoted the subdimension *'a collaborative culture'* as vital to successful partnering. To succeed you have to collaborate, not only coordinate with less focus on individual acts and more on common acts. How one chooses to involve others is experienced differently by the client's employees. Some employees are skilled at including each other in projects, others are not.

> *'Everyone is doing their thing in their respective hold'*
>
> -No. 3-

> *'Professionals are equally important: landscape architect, road and street planner, economist, engineer, geologist, lawyer: all doing an important job. Understand the interdependence of each other!'*
>
> -No. 15-

The reason why to apply partnering practices must be clear to everyone. No. 5 explained that we must have a *'mutual understanding of the intent behind the partnering.'* It was pointed out

that partnering is something that it has been said they are to do, but that they in reality fail to achieve. Furthermore, participants must understand how.

No. 1 had a strong focus on communication: *'Good dialogue both written and oral, and discuss how things will be resolved if there is conflict'.* There must be time and resources allocated to partnering, and no. 24 said: *'Collaboration tools and partnering models should be implemented to succeed.'*

> *'Spend a lot of time on participation-based management of stakeholders.'*
>
> -No. 12-

Focusing on participation-based management of stakeholders and the importance of early involvement was described as *'Involve early and have a strategy, and be aware of which stakeholders are affected by the project. Have meetings with the various stakeholders, we can never be good enough at that!'* -No. 10-.

With regard to 'a collaborative culture' as a subdimension, early involvement is key in building good relationships, and, as no. 6 pointed out: '*People who know each other well understand each other better*'. That means getting to know each other and collaborating at the right time. Too late involvement might cause misunderstandings, because you do not know the people you are going to collaborate with enough. Individuals in the planning phase should be involved as early as possible. Similarly, in the construction phase the professional internal resources should be involved as early as possible.

> '*With early involvement, we have succeeded. We are not involved early enough; it has caused significant challenges.'*
>
> -No. 25 -

Several interviewees mentioned the importance of being prompt. No. 10 pointed out that this is about being proactive: '*Then we will meet understanding and goodwill, but in the cases where we have not informed, we face a major frustration from the participants.*' This is further stressed by No. 11: '*If we are building good relationships in early phase and also through the implementation phase, we are doing well.*' Furthermore, it was mentioned that it is essential to keep people involved by providing information and communicating with them, thereby making them feel that they are part of the project.

The interview objects highlighted sufficient time and involvement of contractor's subcontractors. The contractors have allocated employees for calculation of tenders while simultaneously the construction management, designated to physical implementation of the contract, is completing another contract. As a result, it is difficult to get sufficient time for familiarizing themselves with the contract prior to start-up of a partnering project. Additionally, subcontractors are unprepared until commencement of construction approaches. It was pointed out that it is important that key subcontractors, who are to implement large parts of the contract, should participate in partnering activities early. This does not necessarily entail that they will participate in the entire partnering process. Several interview objects explained this by saying that the main contractor is a contractual party, and they do not want subcontractors receiving information about the contract, which will cause tactical difficulties negotiating with subcontractors. It was mentioned that one could have separate meetings with subcontractors after entering into contract.

The leaders must demonstrate role model leadership:

> '*Management must be involved in partnering, particularly in relation to the need to allocate time and resources, and they must understand what partnering is.*'

> -No. 9-

'... have a visible management that fronts partnering'

<div align="right">-No. 2-</div>

Interview objects pointed out the importance of having a visible management fronting partnering. The managements of both the client and of the contractor must interact with each other. Management is viewed as facilitating the impression that the contractor is only interested in 'skinning the client' to earn money. On such a basis for partnering, it will not succeed.

The organization should build a project partnering culture, both internally and externally. This entails having people who master partnering, who understand the essence of partnering, who have a common understanding of the interdependence on each other, and who have a desire to cooperate and communicate. The opposite will result in unsuccessful partnering. One interview object said:

> *'The targets do not take into account holistic perspective or good attitudes. I am concerned about my own goals; if I help others and interact with others I might not reach my own objectives.'*

<div align="right">- No. 29</div>

In summary, the subdimension *'a holistic perspective'* included:

- Have an understanding of each other's subject areas/look beyond their own disciplines

- Unified client

- Understand the totality

- Have people with partnering skills in all parts of the value chain in the organization

The subdimension *'a holistic perspective'*, as expressed in 23 of 54 interviews, means thinking holistically, and being willing to collaborate with other participants, and that participants are able to have an overview of the entire value chain. For example, the operation of a road quickly becomes more expensive if you do not intend to keep maintenance expenses low during the construction process.

According to No. 4: The organization has employees who have *'personal commitment and strong subject interests for their discipline.'* In this context, it becomes more apparent that:

> '*If one does not have people who are skilled at working and seeing a holistic perspective, a few conflicts between disciplines lead to an unsuccessful partnering project.'*

> <div align="right">-No. 11-</div>

> '*Be willing to put yourself into the complexities (organizational) - get an overall picture'*

> <div align="right">-No. 13-</div>

> '*Have an understanding of others' disciplines, put away the blinders and look beyond their own disciplines. Look at it as a contribution to successful projects.'*

> <div align="right">-No. 2-</div>

One must underpin good understanding of the others' disciplines and the ability to see beyond one's own disciplines.

The subdimension *'a holistic perspective'* also means being a unified client. Internally, to act in the same way, and be perceived as one organization independent of person, project or region by external parties. Internally, this entails being trained and coordinated with regard to how one does things internally between the regions, but also between

processes/departments/sections. In interactions with construction companies, presenting a unified client front was important, such as shown in this example:

'It is important that we are a unified client. The construction companies are good at making comparisons and put us internally up against each other.'

-No. 10-

With *'a holistic perspective'*, you might get a better understanding of each other, which reduces conflicts:

'If you understand the totality, it may be easier to accept.'

-No. 4-

'Predictability and act uniformly. That various parties know how to relate to each other.'

-No. 10-

In summary, the subdimension *'an accurate handover'* included:

- Talk to people who have been involved earlier in value chain

- Get ownership of the project

- Maintain accurate and important information between phases in value chain

- Use procedures and convey important and correct information

'An accurate handover' as a subdimension, according to 20 of 54 interview objects. To succeed with infrastructure projects and throughout the value chain processes in an organization, participants must have a common understanding of the history of the project – e.g. what has happened and who were involved.

'Bring along the experience from previous phases.'

- No. 7-

'Various people have been involved; there may be misunderstandings and ambiguities that in a worst-case scenario result in important factors not being taken into account.'

- No. 8-

Experience from the past is gleaned by talking to those who have been involved before, thus facilitating a sense of ownership of the project.

Interview object No. 9 pointed out:

'People from different departments lacking … ownership of their project, we are sitting close, but it is perhaps that we have to talk a little more together.'

-No. 9-

Transitions between regulation plan and building planning, between phases of planning and construction projects, and between construction and operation and maintenance are challenging, and especially with regard to implementation and delivering important and accurate information to the project.

'History is important considering that the road will be operated and maintained thereafter. There is too much randomness involved in what is being safeguarded and what is being handed over between the various phases of value chain processes in CaseCo.'

-No. 8-

To sum up, we found that the findings could be systematized in a three-dimensional model (*Who, What, Way*) on how to succeed with project partnering in the construction industry (Figure 1). There were no findings in the *when* and *where* dimensions of the basic 5W1H framework. This calls for further investigation. In the chapter that follows, we will focus on discussing findings from our case study in relation to theory.
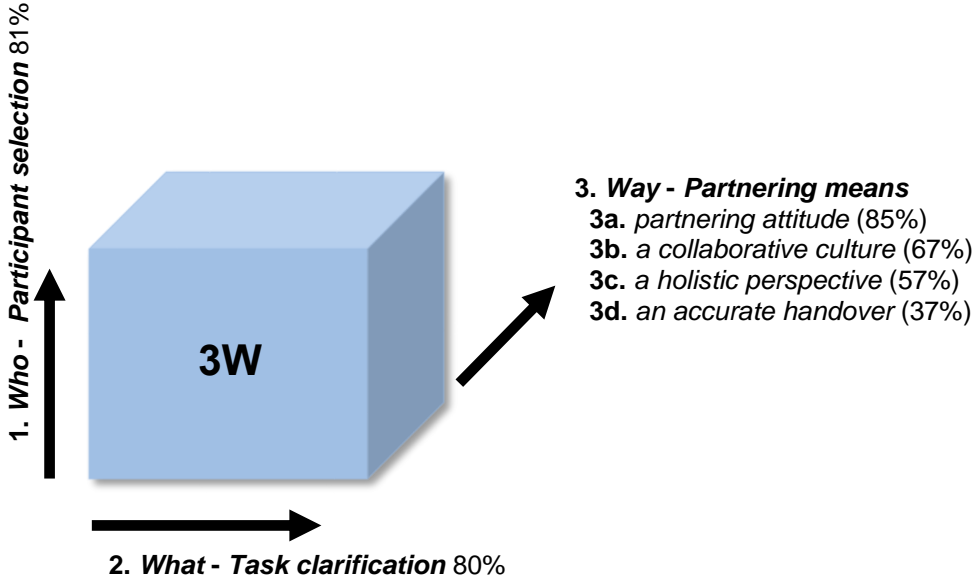

Figure 1. The 3W model – How to succeed with project partnering

Discussion

Project partnering was introduced to CaseCo in 2010 with the three specific partnering goals of improving the basis for good relationships between client and contractor (the parties), to create trust between the parties, and to inspire the technical development of projects. They

relate to the basic principles of partnering - commitment, trust, respect, communication and equality - designed to protect the interests of all parties at all levels (Chan et al., 2003, Cowan et al., 1992). In this chapter, we discuss how to succeed with project partnering. Table 5 shows similarities between success factors in the literature review and findings from our case study, the three main dimensions vital for project partnering success.

Table 5: Similarities between literature review and interview findings					
Literature review/findings from interviews	Trust	Communication	Commitment	Collaborative problem-solving	Mutual project objectives
1. *Who* related to *Participant selection*	not mentioned				
2. *What* related to *Task clarification*	not mentioned				
3. *Way* related to *Partnering means*					
3a. Partnering attitude	X	X		X	
3b. A collaborative culture		X	X	X	
3c. A holistic perspective				X	
3d. An accurate handover		X			

Our case study finding, the main dimension *Way* related to *Partnering means,* confirmed earlier research as shown in the literature review. The literature, however, did not take into account the main dimensions *Who* related to *Participant selection* or *What* related to *Task*

clarification. Our contribution is the identification of the three main dimensions (*Who*, *What*, *Way*) essential to succeed with project partnering.

Who - Participant selection

The main dimension *'Participant selection'* is found to be an important dimension to succeed with partnering. In other words, participant selection entails who it is important to involve in partnering projects. CaseCo had a strong focus on partnering toward one external contractor type. Partnering projects and value chain processes in organizations include far more parties. Mapping of partnering challenges showed that the challenges were internally located across the entire organization. Wide involvement by the whole organization is essential in partnering in delivering the agreed products and services at the right cost, time and quality, according to our findings. The results indicate a need for stronger involvement of multiple other departments - through the whole life cycle of the project, from design through project execution to operations, i.g. the entire value chain. Specifically mentioned are top management in addition to other internal departments. Findings also revealed that there were partnering challenges externally, with stakeholders, the media and environmental organizations, to name a few.

Success factors identified in the literature review did not take into account who should be involved in partnering projects. According to our findings, wide involvement was seen to be essential. It is all about selecting the right participants. The project must know who their key stakeholders are and involve the appropriate internal and external parties at an early stage. Everybody has a responsibility to involve himself or herself in partnering activities.

What - Task clarification

In the results, a common understanding achieved by having each party clarifying expectations constitutes the basis for good partnering. What is the task, clarified by identifying how the parties think and how tasks are considered solved. The interview objects pointed out the importance of good role and responsibilities clarification especially internally, but also vis-à-vis external stakeholders.

Success factors in the literature review do not take achieving a common understanding into account. According to our findings, it is important to clarify the expectations each party has, identify how the parties think and how tasks are considered solved, and ensure good role and responsibilities clarifications.

Way - Partnering means

Partnering attitude

According to our findings, it was essential to build trust between the client's and the contractor's organization without hidden agendas. A good relationship can be fruitful. The knowledge is on both sides. Create a system where knowledge can be utilized by not working against each other. The broader 'joint governance structure' (Walker and Lloyd-Walker, 2015) applies to both project risks and opportunities. Hence, joint governance structure has the aim of value creation by capturing the value of opportunities and not merely avoiding conflict by mitigating risks by collaborative problem-solving. It costs a lot of money to spend time dealing with arguing and disagreements internally and externally, with consultants, contractors, or others.

Opportunistic behavior goes against the fundamental principles of partnering (Biong et al., 1994). It means that one partner in a relationship is likely to act in his own interest to obtain undue advantage at another party's expense, given the opportunity, and that a partner uses

certain means to acquire such benefits. The opportunistic party hides his motives and actions from the other party, e.g. by withholding information or by giving wrong information. A minor comment, presented in the e-mail, was linked to opportunistic behavior.

Several support trust, e.g. trust is described as a prerequisite (Aarseth et al., 2012, Construction Industry Institute (CII), 1991), and Kaluarachchi and Jones (2007) require trust between 'All stakeholders'. Factors pertaining to communication varied from just 'communication', (Meng, 2012, Cheung et al., 2003, Doloi, 2009) via 'effective communication' (Black et al., 2000) to 'open and honest communication' (Suprapto et al., 2015a). Our findings support this by saying that there had to be openness from both parties (client and contractor).

This good communication and chemistry constitute the foundation. Two-way communication was described in interviews. Generally, there must be a mutual desire to collaborate, communicate and build good relationships, and this requires that the parties hold each other mutually informed based on respect and understanding. This agrees with the basic principles of partnering - commitment, trust, respect, communication and equality - designed to protect the interests of all parties at all levels (Cowan et al., 1992, Chan et al., 2003)

A collaborative culture

The interview objects highlighted early involvement. Kaluarachchi and Jones (2007) supported this by utilizing the term 'early contractor involvement' to explain 'effective communication'. The project must know who their key stakeholders are and involve the appropriate internal and external parties in an early phase. Particularly, it was important to involve subcontractors early, potentially to facilitate informal communication in line with Aagaard et al. (2015).

That top management must be involved, was supported by 'top management support' (Suprapto et al., 2015c, Larson, 1997, Cheng and Li, 2001) as a kind of internal or external commitment, and top management must allocate time and resources to partnering activities. Cheung et al. (2003) supported 'Long-term-'and 'resource commitment'. Lack of top-management support may lead to inefficient partnering, which often results in conflicts and is both time-consuming and costly. The results indicate that the participants had to acquire partnering competence and understand what partnering is, the top-management included. Equally important was that the top management fronts partnering and understands the need to allocate time and resources.

Inadequate understanding of why and how could be a key reason why the partnering does not actually work. If participants do not fully understand what the term partnering is, CaseCo will not be able to conduct neither successful collaboration internally nor against external stakeholders. Finally, insufficient understanding would cause unsuccessful partnering.

According to our findings, and considering that there may be disputes, it was important to have mechanisms in place for resolving disputes that could arise continuously as a part of partnering. Avoiding conflict by mitigating risks by collaborative problem-solving was supported by Walker and Lloyd-Walker (2015).

A holistic perspective

The results indicate that unsuccessful partnering would quickly become a reality if you did not have employees who actually had the skills required for partnering approaches. Be willing to see the complexities (organizational) - getting an overall picture was essential. Having an understanding of the importance of others' disciplines, putting away the blinders, and looking beyond one's own discipline all contribute to successful projects.

An accurate handover

Despite the fact that only 20 of 54 mentioned the *'an accurate handover'* in the interviews, we choose to include it as a subdimension because, according to our findings, the history in the project was important in the planning period, during implementation and afterwards. Firstly in relation to bringing forward experiences from past projects and gaining ownership of the project, secondly in what was being safeguarded and handed over between the various phases of value chain processes in CaseCo, and ultimately the final documentation. Lacking information caused misunderstandings and ambiguities that in a worst-case scenario would lead to unsuccessful partnering and not be beneficial to the project. Communication as part of this subdimension is important. Factors of communication include e.g. 'communication' (Cheung et al., 2003, Doloi, 2009, Meng, 2012) and 'effective communication'(Black et al., 2000).

Partnering was documented to contribute positively to construction projects (Bayramoglu, 2001, Chan et al., 2004, Cheng et al., 2000, Jacobson and Ok Choi, 2008, Larson, 1997, Suprato et al., 2015, Tabish and Jha, 2011, Xue et al., 2010), assuming that successful partnership is achieved.

Walker and Lloyd-Walker (2015) described gain and pain sharing and early involvements as the two main dimensions for levels of relationship-based procurement. It is remarkable that the interview objects did not mention an increasing level of gain and pain sharing. Perhaps there was a broad consensus that the standard contracts in its pure form provided relatively good balance in relation to the allocation of risks and liabilities. Early involvement, however, was strongly emphasized as important by the interview objects. Cheng and Li (2001) identified more extensive joint objectives as the main dimension in expanding partnering practices. Our interview objects found it most imperative to mutually fully agree and understand the task. However, whether agreeing on and understanding a task also comprises agreement on joint objectives is still unclear.

The three main dimensions vital for project partnering success are linked to the definition by Børve et al. (2017) regarding 'relationship strategy', 'relationship strategy', 'collaborative problem solving' and 'collaborative relationship'. For this study, it means that if CaseCo creates a relationship strategy and a partnering strategy, which include the entire three main dimensions from the interview findings, it will more likely succeed with project partnering.

Conclusion

Addressing our research question, the interviewees indicated three main dimensions vital for partnering success: 1. *Who* related to *Participant selection*, 2. *What* related to *Task clarification* and 3. *Way* related to Partnering *means*. The third *Way* dimension related to *Partnering means* additionally consists of the four subdimensions 3a. *partnering attitude,* 3b. *a collaborative culture*, 3c. *a holistic perspective* and 3d. *an accurate handover*. The results focus on the management and collaboration aspects of partnering, and these three main dimensions and four subdimensions were found to be essential to successful project partnering and were reviewed in detail in the findings from the interviews chapter.

The main dimension *Who* related to *Participant selection,* which included wide involvement of the appropriate internal participants and external stakeholders in the project. The main dimension *What* related to *Task clarification*, which included achieving common understanding of the task each party has and establishing a good basis for collaboration. The third main dimension *Way* related to *Partnering means* included four subdimensions, which are 3a. *partnering attitude*, which means mutual desire to collaborate, communicate and build good relationships. Further 3b. *a collaborative culture* denotes early involvement and acquiring partnering competence - why and how, and 3c. *a holistic perspective* entails

understanding the totality. Finally, 3d. *an accurate handover*, that the history in the project is important in the planning period, during implementation and afterwards.

Inadequate training of staff can be a major cause of breakdown of partnering. If employees or affiliates do not fully understand what the term partnering signifies, the organization will not be able to conduct a successful partnering. On a maturity scale, where the scale goes from being inadequately prepared for practicing partnering to being very mature and practicing partnering fully**,** it is conceivable that CaseCo is located at the start of the scale and is very immature, even after six years of partnering experience. A project-based organization such as CaseCo must focus and work on all the three main dimensions to mature and achieve successful project partnering.

Research limitations and further work

The general context of this study is a project-based organization in the construction industry. Within this context, project partnering assumes strong relevance, as an attempt to improve project performance. We especially focused on how to succeed with project partnering. Our research aims at clarifying the holistic view (in CaseCo) of succeeding with partnering in the complete organization and value chain, not merely in a single project. External validity says something about if findings of the study can be said to be applicable outside the given context (Yin, 2014). Our empirical data originate from the client side only, hence our findings are limited to the client perspective, although project partnering necessarily includes partners.

How to succeed with project partnering is also dependent on the partners. It would have been beneficial for the research if our model could have been empirically tested in other

companies, industries and also from an outside-in perspective. Furthermore, the interviews are limited to one country, one industry and one company only, and the literature review is limited to the construction industry. These aspects could be considered as weaknesses (or limitations), but can also be easily optimized in further research. Our research would benefit from further similar research in other regions, industries and companies.

Reliability, the consistency and repeatability of the research procedures used in case studies (Yin, 2014), pertains to whether we can believe the information that the data collection provides us with. Interviews can be a weakness in that these are carried out by a scientist. This is, however, offset as the interview objects received the summaries and were asked to comment. The findings have also been presented in five separate forums that have confirmed recognition of the findings.

With reference to validity and reliability issues, it should be emphasized that the literature review is based on electronic searches in the English language only. We may have overlooked references in other languages. We have not analyzed any path patterns, in which factors have causal effects on other partnering factors or affect ultimate project success. Furthermore, any factors putting limitations on partnering, such as barriers or failure factors, are disregarded.

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