

STRATEGIC PARTNERING BETWEEN CONTRACTORS AND DESIGNERS

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ABSTRACT

In recent years, the concept of strategic partnering has gained attention in the Norwegian construction industry. As a project delivery method, strategic partnering shares similarities with the Lean project delivery perspective as they both seek to achieve more collaborative projects. The paper has structured strategic partnering into three essential Lean Construction (LC) elements: contract, organization, and collaboration. Consequently, this paper contributes to knowledge about strategic partnering between contractors and designers by answering the two research questions: 1) How is the current practice associated with strategic partnering, and 2) What are the experiences with strategic partnering between contractors and designers.

An exploratory case study was conducted to examine how strategic partnering can be improved in future projects. A combination of literature review and semi-structured interviews were used for data collection.

The findings reveal an improvement potential when implementing strategic partnering in the construction industry. The paper concludes that more attention should be paid to contract elements and the project organization at the company levels to improve strategic partnering. However, at the individual level, good effects have been identified. Findings also showed that external factors like political decisions can lead to postponements and thus changes in personnel in the organization.

KEYWORDS

Strategic partnering, collaboration, Lean Construction, relational, case study.

INTRODUCTION

Partnering is defined by Bennett and Jayes (1995) as a management methodology used to achieve increased value and productivity in the construction industry. The concept of partnering focuses on improving cooperation between the parties in the project organization and is based on traditional forms of contract (Lahdenperä, 2012). There are essentially two forms of partnering: Those that seek strategic long-term relationships and commitments (strategic partnering) and those that are specific to a particular project (project partnering) (Cheng et al., 2004). Strategic partnering occurs when two or more firms use partnering on a long-term basis to undertake more than one construction project

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(Kumaraswamy & Matthews, 2000). Those who genuinely engage with strategic partnering have seen substantial success in results (Johansen et al., 2004).

Traditional projects are based on short-term relationships, while strategic partnering aims to utilize the expertise of different companies by promoting long-term relationships at both the individual and the company levels. Previous research argues that projects in the construction industry can be improved by giving the project partnering a more strategic focus (Moller & Bejder, 2004). In addition, Howell (1999) has said that partnering can be a solution to manage production in conditions of high uncertainty and complexity. As such, strategic partnering can be a way to get Lean issues effectively into companies so that Lean can evolve and become the “new tradition”. However, compared to other industries, the construction industry is more reluctant to establish more permanent and strategic partnering (Moller & Bejder, 2004). According to Koolwijk et al. (2021), this may have to do with the dominant part influencing the system in its favour and, in the long run, creating mistrust in the project organization.

In Norway, partnering elements have become more common in construction projects over the last decades, and previous research shows positive effects (Tadayon et al., 2018; Falch et al., 2020). In recent years, strategic partnering has also become an increasing trend in Norway, but there is limited empirical research on the concept (Stene et al., 2016). This study aims to research strategic partnering between contractors and designers and identify areas of improvement in current practice and for further projects. The paper has structured strategic partnering into three elements: contract, organization, and collaboration, based on the LC triangle. Since the concept of strategic partnering is not much studied in Norway, this paper seeks to answer the following research questions:

1. How is the current practice associated with strategic partnering?
2. What are the experiences with strategic partnering between contractors and designers?

This study is limited to an in-depth investigation of four Norwegian school building projects. The project delivery method entailed a Design-build contract and early contractor involvement in all projects. Furthermore, the emphasis is on the relationship between contractor and designer as the strategic partnership between the same contractor and designer was followed over these four projects. The focus will be on the development phase and design phase. Only qualitative research has been used as a data collection methodology.

METHODOLOGY

There exists little previous research on strategic partnering between contractors and designers, and according to Thagaard (2018), qualitative methods are well suited for explorative purposes. Therefore, based on a qualitative approach, it was decided to conduct an exploratory study that uses a literature study and a case study with interviews as data collection methodology. The study design is based on Yin (2014)'s case study approach. The approach was suitable for gaining insight and understanding strategic partnering and answering the research questions, considering the literature's knowledge gap. The results from a case study will depend on time and place (Olsson, 2011). Due to the resources available and the availability of informants, it was considered most appropriate to do a single-case study and study it in-depth rather than taking a broader perspective. Flyvberg (2006) believes that a single case study that does not aim to provide

a formal generalization also provides results and insight that will significantly contribute to its scientific field.

In our study, the case is defined as the strategic partnership between the contractor and the designers. The main author had a summer internship at the designer company, resulting in the identification and consequent access to the case. The two organizations (contractor and designer) conducted a strategic partnership on four successive school projects during a limited period (2014-2022) and within the same geographical region. Another contributing factor was that three of the projects were recently completed and that the fourth was still ongoing. As the strategic collaboration had existed for a while, more meaningful and nuanced data on the strategic aspects could be extracted. At the same time, the strategic partnership was still ongoing, ensuring that the experiences were still relevant, and the informants were still available.

The primary data source was interviews with individuals with major roles in the four projects. Table 1 shows the informants, their roles, and their involvement. Fifteen interviews were conducted, and "Numbers" in the table indicate the numbers of interviewed objects per role.

Table 1: Informants, their roles and involvement in the case study.

| Role | Project A | Project B | Project C | Project D | Numbers |
|--------------------------------|-----------|-----------|-----------|-----------|---------|
| Project manager | x | x | x | x | 1 |
| Assistant project manager | | x | x | x | 2 |
| Design manager | x | x | x | x | 1 |
| Client's project manager | | | x | x | 2 |
| Technical Manager | x | x | x | x | 1 |
| Architects | x | x | x | x | 2 |
| Assignment leader design | x | x | x | x | 1 |
| Discipline leader electro | x | x | | x | 1 |
| Discipline leader construction | | x | | x | 1 |
| Users | x | x | | x | 1 |
| Subcontractors | | | x | x | 1 |
| Processing supervisor | x | x | x | x | 1 |

The interviews were semi-structured, meaning that all of them followed a standardized interview guide (Blumberg et al., 2014). A literature review was conducted to identify relevant questions for the interview guide. Furthermore, the design and the structure were created through several iterations between the authors. Finally, the authors received input on questions from the various parties in the case study. The structure of the interview guide was divided into three main categories: contract, organization, and cooperation. The main category was further divided into subcategories. For example, some of the subcategories of cooperation were developments in collaboration, commitments, and relationships. Furthermore, the interview questions were based on the research questions. Therefore, for each subcategory, the questions were asked, "what was done?", "what are the experiences?" and "what should have been done?". During the interviews, audio recordings were made so that the interviewer could be more accessible to attend the conversation and ask relevant follow-up questions. Later the interviews were transcribed.

Lastly, the data were analyzed and sorted based on research questions, parties, and categories (contract, organization, and collaboration).

THEORETICAL FRAMEWORK

Projects can be delivered through various delivery methods, ranging from traditional design–bid–build to more integrated forms such as strategic partnering (Koolwijk et al., 2020). Amongst other aspects, the project delivery method dictates how the project team engages, the means used, and how different parties get involved (Engebø et al., 2021). However, this paper is limited to strategic partnering and so-called collaborative project delivery that seeks to integrate and align the parties early, i.e., already in the planning phase (Fischer et al., 2017).

COLLABORATIVE DELIVERY METHOD

A core principle of Lean project delivery aligns the contractual elements (contract), the project organization, and production (design and production). These three elements are also referred to as the LC triangle (Ballard, 2012; Howell, 2011; Thomsen et al., 2010). Lean project delivery seeks to align all project parties with available contractual elements to achieve a collaborative project organization and lead to a project culture for delivering value in production (Falch et al., 2020). In collaborative project delivery methods with early contractor involvement, the early stages of the project are centered around the notion of integrated design, organized around multi-disciplinary teams, with the actors often co-located to favour collaboration and innovation (Engebø et al., 2021; Forgues et al., 2008). Collaborative project delivery methods are a global phenomenon. Research has shown that such methods have emerged worldwide, from Integrated Project Delivery (IPD) in the US to Alliancing in Australia (Engebø et al., 2020). Furthermore, Lahdenperä (2012) showed that although the different collaborative project delivery methods are primarily geographically determined, they have adopted practices from each other.

In Norway, partnering elements in collaborative delivery methods have become more common in construction projects over the last decades (Stene et al., 2016). A literature study conducted by Tadayon et al. (2018) points to several benefits with partnering elements: fewer conflicts, increased productivity, and a better working environment. It is common in Norway to combine partnering with a two-step delivery method (Engebø et al., 2021). The first step starts with the client contracting a contractor with an architect, designers, and subcontractors for a development phase (contract phase 1). The development phase usually has an option for a design-build contract in step two (contract phase 2), provided that the contractor develops an adequate project (Engebø et al., 2021).

THE CONCEPT: STRATEGIC PARTNERING

Strategic partnering occurs when two or more firms use partnering on a long-term basis to undertake more than one construction project (Kumaraswamy & Matthews, 2000). Strategic partnering differs from IPD as it is not a multi-party contract between the client, contractor, and designer (Lahdenperä, 2012). However, partnering and IPD share similarities as they accommodate the construction industry's need for more efficient collaboration between project participants (Lahdenperä, 2012). In the context of the construction industry, strategic partnering differs from the other industries as it is strongly linked to the local business environment, local economy, government regulation, and culture (Lu & Yan, 2007). According to Cheng et al. (2004), strategic partnering is also typically an informal voluntary agreement between the parties involved.

The literature points out that strategic partnering is, in several ways, an extension of project partnering (Lahdenperä, 2012; Sundquist et al., 2018). Nevertheless, Cheng et al. (2004) believe that the application of strategic partnering is different from project partnering. The latter focuses on achieving partnership goals and project performance, while strategic partnering is about reciprocity and continuity between the parties. Strategic partnering is thus considered more process-oriented, while project partnering is more results-oriented (Cheng et al., 2004). Therefore, the learning achieved in a specific project is more likely to be used in future projects, and it is clear that the advantages of project partnering are not regarded as equal to strategic partnering (Shimizu & Cardoso, 2002). Cheng and Li (2007)'s study found several benefits if companies expand from project partnering to strategic partnering. The benefits are related to tender competition, opportunities for long-term competitive advantage, and new market access. In addition, it is common to use interaction provisions such as access to each other's technology, long-term relationship establishment, and activities that improve the product and the process (Lu & Yan, 2007). Therefore, it can be argued that strategic partnering can improve all three elements in the LC triangle. However, to achieve these advantages, the project organization is dependent on the same people being transferred from project to project to ensure promising relationship developments (Lu & Yan, 2007; Sundquist et al., 2018).

STRATEGIC PARTNERING IN A LEAN PERSPECTIVE

Previous research shows that partnering as a project delivery method shares similarities with the Lean perspective as they both use available elements to achieve a collaborative project (Falch et al., 2020). Since strategic partnering in several ways is an extension of project partnering, the similarities with the Lean perspective are even higher with strategic partnering. The reason is that companies can, over a more extended period, eliminate many of their problems and ensure ongoing improvement through a more open, frequent, and accurate exchange of information (Shimizu & Cardoso, 2002). Thus, strategic partnering can reduce waste and increase value in construction projects in the long run.

Although some examples of strategic partnerships have led to improvements in construction project delivery (see Crutcher et al., 2001; Lönngren et al., 2010), these have been restricted mainly to client-contractor. Furthermore, most of the literature is now more than ten years old, making the topic fit for a revisit. Sundquist et al. (2018)'s study also points out research gaps regarding the actual features of strategic partnering. From a Lean perspective, IPD has, in recent years, been given more attention than strategic partnering (see for example, Dargham et al., 2019 and Simonsen et al., 2019). Only one paper has been found from the literature study with strategic partnering between contractors and designers being the focal point (Lu and Yan (2007)). However, no papers were found that empirically document experiences between contractors and designers.

Thus, in this paper, the focus is on the contractor and the designers. In addition, the case study includes interviews with the other parties in the project organization to map their experiences related to the strategic partnership. Even if the Lean Construction concepts are more related to firms, they can be extended to the organization level (Shimizu & Cardoso, 2002), as the authors do in this paper.

FINDINGS AND DISCUSSION

This chapter presents results related to the research questions and discusses them based on the case study and the theoretical framework. The chapter follows the structure of the interview guide and is therefore divided into contract, organization, and collaboration.

CONTRACT

The client entered a contract with the contractor, while the contractor had contracts with the other parties in the project organization. Since the client was not part of the strategic partnership, a multi-party contract was not entered into as in IPD projects. Previous research also shows that multi-party contracts not necessarily is implemented in what has traditionally been called partnering (Lahdenperä, 2012). The strategic partnership between the contractor and the designer was implemented as an informal agreement, and separate contracts were signed for each project. A fixed-price contract was used on the first three projects, which means that the contractor relinquished the responsibility related to the price for the design work to the designers. In contrast, a reimbursable contract was used on the last project, meaning that the contractor retained the responsibility. Several partnering elements were stipulated in the contracts to improve the collaboration through the strategic partnership. The most important were start-up seminars, team-building activities, open book, and joint meetings with users. However, no contractual incentives were used between the parties. Table 2 shows the most central findings from the interviews associated with the contract.

Table 2: Advantages and challenges with the contract.

| Advantages | Challenges |
|--|--|
| Increased quality of the contract | Disagreements due to a more elaborate contract |
| Increased financial gain for the designers | Power relations between the parties |

The designers experienced improvements in their contracts through the strategic partnership. The designers said that the first two projects had almost no prerequisites, limitations, or clarifications in their contract with the contractor. Therefore, they were unsure what they priced, offering a too low price. Previous research is unclear on the willingness or value of proceeding with the strategic partnering if the initial efforts turn out negatively. In this case, the designers did, and through improvement in their contract, they increased financial gain in the strategic partnership. Previous studies have also shown that companies can eliminate problems and ensure ongoing improvement through strategic partnering (Shimizu & Cardoso, 2002). That makes an argument that the ability to tweak and improve is a beneficial feature of strategic partnering. However, the improvement of the contract also led to disagreements at the company level because the parties spent significantly more on creating more specific agreements, leading to irritation from the contractor as they were happy with the original contracts.

Interviews with designers, architects, and subcontractors revealed that cost savings primarily went to the contractor. In simple terms, in the original contractual framework entailing the strategic partnership, the contractor gained on the designers working faster and cheaper. In contrast, the designers gained nothing from the increased productivity. As a result, the designers tried to introduce, from their perspective, fair financial incentives in the last projects. Consequently, according to the informants, the move failed, which may have to do with the contractor being at the top of the hierarchy in the strategic partnership. Another contractual experience uncovered was the notion that subcontractors become involved too late in the projects. With the late entrance of the subcontractors, the designers experienced that they often designed something that did not match what the main contractor and subcontractor had agreed. The result was often that the designers had

to redesign according to the wishes of the subcontractors, which was beneficial for the main contractors but had a negative effect on the margins of the designer. The designers told the contractor several times that the subcontractor had to be involved earlier. However, the contractor said in the interviews that it is too risky to enter a contract with the subcontractors earlier because there is uncertainty associated with the construction phase. These results are consistent with previous research, which states that the dominant party, the contractor, can use its power to influence the system in its favour (Koolwijk et al., 2021). According to Koolwijk (2021), the power relations between the parties are one reason why the implementation of strategic partnerships has been delayed in the construction industry. Thus, the power relations between the parties can make it challenging to eliminate all problems with the contract through strategic partnering.

ORGANIZATION

In all four projects, the parties used a collaborative project delivery method with early contractor involvement. In the early stages of the project, all the parties were centered around the notion of integrated design. Project hotels and BIM were used as digital collaboration tools. The insight from the interviews showed that keeping the same key personnel was a strategy the parties created at the beginning of the strategic partnership. For example, the project manager and the design manager were the same person in all four projects. In addition, other key persons in the project organization were involved in all or several of the projects in the case study, see Table 1. **Error! Reference source not found.** shows identified advantages and challenges with the organization from the case study.

Table 3: Advantages and challenges with the organization.

| Advantages | Challenges |
|--|--|
| Technological development | Challenging to keep the same people |
| The design manager works in the design company | Postponements can lead to replacements in the project organization |
| Improved productivity | Unforeseen decisions by the client |
| Recurring effect | |

From previous research, it has been found that it is common to use interaction provisions such as access to each other's technology (Lu & Yan, 2007). The informants said the same, and the focus on BIM and other technology has increased in the strategic partnership. The focus on BIM was a strategy from the start and has worked out positively for the organization, the informants said.

Previous research is unclear on how the contractor and the designer deal with the aspects of liability in a strategic partnership. However, the design manager worked at the designer company in this case study. Therefore, the contractor transferred the coordination liability between designers and architects to the designers. The informants from the designers pointed out that it has been positive because the design manager's focus has been on productivity, innovation, and continuous improvement. In contrast, based on previous experience, if the contractor is responsible for this role, the designers said the focus tended to shift towards economy and productivity (getting it done quickly).

The informants at the designers said that the focus on becoming more productive has been tremendous and that the designers have thus managed to increase productivity from project to project. They have also experienced recurring effects from project to project, but not as significant as hoped. Part of the challenges has been keeping the same people from project to project as people quit, leave, and are assigned to other projects in their mother company's portfolio. The contractor and designer interviews stated that good relations were developed when the same people were transferred to the next project. Previous research has also shown that personnel replacements could damage the development of relationships across the parties, which is a crucial factor in implementing strategic partnering in the construction industry (Lu & Yan, 2007; Sundquist et al., 2018). People are the backbone of the collaborative relationship. Therefore, the organization is dependent on keeping the same people from project to project to ensure continuous improvement through the strategic partnership.

Both the contractor and the designer informants said that external factors such as the client also made it challenging to keep the same people through the strategic partnership. For example, project D was postponed for more than a year due to political decisions. When the project was started again, parts of the staff were busy with other projects, and there were several replacements in the project organization. The contractor and the designer informants also mention that outdated requirements specifications and the client's indecision negatively affect the strategic partnership. Therefore, an insight from the case study is that external factors such as the client could significantly influence the relationship between the contractor and the designers in a strategic partnership.

COLLABORATION

The interviews showed that the contractor and the designer had the same strategic vision to carry out several school projects together, and both parties wanted to enter a strategic partnership. There were three main reasons why the contractor and the designer wanted to implement strategic partnering: 1) they had some prior positive experiences from previous projects, 2) together, they perceived they could form a competitive team that would stand a better chance at winning tendering competitions, and 3) the desire to achieve a repetition effect (*learning effect*).

The parties agreed that the team would try to qualify for a new school project approximately one year in advance through dialogue and customer meetings. Therefore, the team had plenty of time to plan how to pre-qualify and further win the tendering competition. Identified advantages and challenges with collaboration in the investigated case are shown in **Error! Reference source not found.**

Table 4: Advantages and challenges with the collaboration.

| Advantages | Challenges |
|--|---|
| Ability to win projects | Arrange experience transfer meetings |
| Increased quality of the work | Predict future projects |
| Relationship development at the individual level | Relationship development at the company level |
| | Make long-term commitments |

The interviews showed that both contractor and designer agreed that they should have been better at continuously evaluating the collaboration during the strategic partnership. They also acknowledge that they had not managed to eliminate enough problems. As a result, the same problems primarily recur from project to project. Therefore, they failed to utilize the learning effect through continuous improvement. Unlike companies that have been studied in other research on strategic partnering (see Crutcher et al., 2001; Lönngren et al., 2010), the contractor and the designer, in this case, failed to take advantage of the same benefits. Thus, several issues identified could have been limited or eliminated if the focus on experience transfer meetings had been more priority. However, the informants at the designer pointed out that such meetings have not always been possible because of increased economic conflicts at the company level through the strategic partnership. Therefore, the case study showed that increasing conflicts at the company level could prevent continuous improvement through strategic partnering.

A positive effect documented was their strong performance in the tender competitions. Their strategic partnership was crucial to the team winning four school projects in a row, the informants said. Lu and Yan (2007)'s study also highlights advantages related to tender competition and opportunities for a long-term competitive advantage as underlying incentives for strategic partnership between contractors and designers. However, even though the team had the same vision to carry out several school projects together, the informants point out that such long-term collaborations still entail a degree of uncertainty. First, it is difficult to predict which future projects will be put out to tender (*market conditions*). Second, there will always be uncertainty about whether the tendering competition will be won. This challenge is typical for the construction industry, as strategic partnering is strongly linked to the local business environment, local economy, government regulation, and culture (Lu & Yan, 2007).

A particular characteristic worth noting was that no formal organizational agreement was drawn, making the intention and commitment to the strategic partnering purely relational. Instead, it was an informal voluntary agreement between the parties involved, which Cheng et al. (2004) state are quite typical for strategic partnering. The informants said that a long-term formal commitment could have improved the collaboration, but several barriers made it challenging. First, it is risky for the designers as an organization, due to their business model, to commit entirely to one design-build contractor because it varies greatly which contractors are awarded the different projects in the local market. The designers said they must be on the team with the best chance of winning projects. Second, it is challenging to commit to a large contractor. If they win three large projects, the designers may not have enough capacity to participate. Third, the informants also believe that contractors and designers need periods of disengagement after working closely together for a more extended period. The first two barriers agree with Lu and Yan (2007)'s study, but the last barrier has not been found in previous research work. Therefore, while the designers and contractors could benefit from strategic partnering - the partnering commitments should be on projects after they are awarded. Thus, both contractors and designers can pursue other interests in other projects and between projects.

However, the reason why the contractor and designers need a break from each other is likely because sustained strategic partnering over time creates tension between the organizations. The informants describe that there has been a good relationship development at the individual level and that people have built close ties across the companies. The informants are also aware that the professional collaboration has had a positive effect and increased the quality of the work. Previous research describes strategic

partnering as positively related to relationship development and improving teamwork. However, little research describes the challenges strategic partnering entails concerning developing collaboration at the company level. This case study has shown negative relationship development at the company level due to financial and contractual conditions, leading to the strategic partnership now being over. Therefore, the overall assessment shows that strategic partnering appears to be positive on an individual level but that disagreements at the company level can prevent the positive aspects of strategic partnering from being built on for even more extended periods.

CONCLUSIONS

The literature on strategic partnering states that it is often related to the client and the main contractor. In this paper, an exploratory case study was conducted to examine how strategic partnering between contractors and designers can improve future projects. The elements of contract, organization, and collaboration were explored based on the LC triangle. As the study emphasized an in-depth look at strategic partnership, the results should not be viewed as a generalization of the phenomena. Instead, the results may provide deeper insight into the phenomena and be of value to those considering strategic partnering. In addition, this paper can contribute to the theory of strategic partnering.

Several of the case study findings support and agree with the existing literature. For example, achieving technological development, the importance of keeping the same people, and the benefits of tender competitions. However, the case study has provided some additional insights into the context of strategic partnering between contractors and designers. For example, it was found that contracts and financial disagreements can occur in the long run and that the parties need a break from each other after an extended period. This type of disagreement has also made it challenging to arrange experience transfer meetings, preventing the contractors and designers from eliminating problems. The case study also identified external factors such as market conditions and policy decisions that make it difficult to achieve good strategic cooperation between contractors and designers. Also, it was identified that the designer's business model and capacity prevent long-term commitment with a contractor. Therefore, the partnering commitments should be on projects and not long-term commitments.

To improve strategic partnering between contractors and designers, the parties must be more aware of relationship development at the company level, not just the individual level. If companies can maintain relationships at the company level, the collaboration period can be even longer, ensuring continuous improvement. The parties must also be aware of finding long-term financial solutions that benefit both contractors and designers, as the investigated case showed that the savings only goes to the contractor. The people who worked together on several projects experienced a positive development in relationships and the quality of the work. People are the backbone of the collaborative relationship, and the organization is dependent on keeping the same people from project to project to ensure continuous improvement.

Strategic partnering aligns with the Lean philosophy of continuous improvement because the concept seeks learning effects at the company level and between projects. However, there is still a lack of knowledge in making the concept work in practice. Therefore, more case studies and interdisciplinary research are needed to further clarify improvements with strategic partnering between contractors and designers.

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