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STRATEGIC PARTNERING BETWEEN CLIENT, CONTRACTOR, AND SUBCONTRACTOR

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ABSTRACT

The concept of strategic partnering has recently gained significant attention in the Norwegian construction industry. Strategic partnering is a project delivery method that emphasizes a more collaborative approach than traditional delivery methods. It shares similarities with a Lean project delivery approach, as both seek to optimize and create more collaborative projects. In this paper, strategic partnering is broken down into three key elements of Lean Construction: contractual, organizational, and relational elements. Through this, the paper aims to contribute to understanding strategic partnering between a client, general contractor, and a key subcontractor by addressing the following research questions: 1) How is strategic partnering practiced in Norwegian construction projects, and 2) What are the experiences of practicing strategic partnering in Norway?

An in-depth case study was conducted to investigate ways to enhance strategic partnering in future projects. A combination of a literature review and semi-structured interviews were used for data collection for this paper. The findings show that using strategic partnering improved project outcomes, with trust, early contractor involvement, contingency of key participants, and problem resolution being crucial aspects of the collaboration. However, more attention should be paid to evaluating the other parties in the context of the strategic partnership.

KEYWORDS

Strategic partnering, strategic alliancing, project delivery models, Lean construction, collaboration.

INTRODUCTION

As building projects become increasingly complex, alternative project delivery methods are becoming more prevalent in the construction industry (Engebø et al., 2020). The new delivery methods seek more integration in the construction process by involving key parties in the early stages and forming an integrated project team. A core driver for this change can also be found in the lean community through the emergence of lean project delivery with its emphasis on establishing a collaborative project organization, relational contract, and lean operational system to align and integrate key participants and encourage a collaborative environment (Mesa et al., 2019).

Nevertheless, there is a need for further research in the area of collaborative project delivery. Partnering is one such method, which can take the form of a strategy or a practice of different versions. According to Lahdenperä (2012) partnering can also be viewed as a philosophy.

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Bennett and Jayes (1995) define partnering as a management approach in which two or more organizations utilize each other's resources to attain specific goals. This form of collaboration is particularly useful in complex projects with a high degree of uncertainty and a need for collaboration among the parties (Eriksson, 2010).

In the literature, there are commonly two forms of partnering that occur: project and strategic partnering (Beach et al., 2005). Project partnering is limited to a specific project and aims for short-term effects (Bygballe et al., 2010). On the other hand, strategic partnering can span over several years and projects, and seek long-term gains (Beach et al., 2005; Cheng et al., 2004). Both forms are relatively less prevalent in project-based industries compared to production-based industries where they have existed for a longer period (Bygballe et al., 2010).

Strategic partnering can be a way to implement Lean principles as the collaboration lasts for a prolonged period and the relationships between the parties are strengthened through collaboration. In other industries, there has been found that strategic partnering has a positive effect on lean strategies, lean manufacturing, and lean design (see for example, Jayaram et al., 2008). In other words, the concept should be transferable to the construction industry in line with the lean philosophy's approach to continuous improvement, efficiency, and value creation.

Sundquist et al. (2018) and Zheng et al. (2020) emphasize the need for further research to comprehend the concept of strategic partnering. Additionally, case studies on strategic partnering are necessary, as the previous research has primarily consisted of cross-sectional studies (Zheng et al., 2020). According to Bygballe et al. (2010), there is little documented research regarding strategic partnering between multiple actors. There is also a knowledge gap in the literature about the experiences and effects of strategic partnering, especially in the Norwegian construction industry. However, this does not imply that strategic partnering is not practiced in the construction industry. It is therefore of interest to gather and collect experiences from parties who practice strategic partnering in their projects. Lately, there has been a study about strategic partnering between a contractor and a designer in Norway (see Paulsen et al., 2022).

The purpose of this paper is to identify the success factors of strategic partnering in Norwegian construction projects. Additionally, it will investigate the experiences of partnering across multiple projects. It will be based on relevant literature and two case projects. The following research questions (RQ) have been developed for this in-depth study:

RQ1: How is strategic partnering practiced in Norwegian construction projects?

RQ2: What are the experiences of practicing strategic partnering in Norway?

This study examines two building projects that utilize a Design-build contract that features predefined criteria for collaboration. The main focus of this research is on the relationship among the client, the contractor, and the subcontractor, as the same partnership is tracked throughout the entirety of the first project and the early stages of the second. The general contractor was engaged in the design phase together with the client and the electrical subcontractor was engaged before commencing construction.

THEORETICAL FRAMEWORK

Strategic alliances have a central place in the lean philosophy. For Toyota, partnering in the supply chain was one of the four core processes. Garnett et al. (1998) believe that a premise for a lean construction process is that alliances, operationalized through the project team, work on a series of projects, continually developing the product, applying quality improvement and waste reduction techniques, and incorporating arrangements for learning and continuous improvement.

COLLABORATIVE PROJECT DELIVERY METHOD

Miller et al. (2000) describe a project delivery method as «a system for organizing and financing design, construction, operations, and maintenance activities that facilitates the delivery of a good or service». According to Klakegg (2017), some will argue that adapting the project delivery model to the specific project will be most appropriate. Others will argue that a standardized project delivery model will contribute to less misunderstanding and disagreements from project to project. To handle projects with higher risk, uncertainty, and complexity collaborative project deliveries can be a preferred option (Tadayon, 2018).

There is a distinction between hard and soft elements in collaborative project delivery (Wøien et al., 2016). The hard elements can be found in the contract, while soft elements are the outcome of using process-oriented methods during the project. The findings by Engebø et al. (2019) conclude that the most important soft elements were top management support, openness/transparency, trust, shared goals and motivation, and attaining the right people. Whether the client's management can provide continuous support lies on the client's resources and is considered a critical success factor.

STRATEGIC PARTNERING IN THE CONSTRUCTION INDUSTRY

The literature review indicates a clear distinction between project partnering and strategic partnering (Beach et al., 2005; Bygballe et al., 2010). Project partnering is a method that is specific to a particular project, focuses on short-term effects, and is more results-oriented (Beach et al., 2005). On the other hand, strategic partnering is geared towards achieving long-term effects of collaboration between various parties. This delivery method lasts for multiple years and projects and is more process-oriented than project partnering. Establishing trust, shared objectives, and commitment among project members are important factors for a long-term relationship between involved parties (Bygballe et al., 2010). According to Koolwijk (2018), strategic partnering is a delivery method in which the owner, contractor, and key subcontractors enter a long-term partnership. Additionally, contractors and subcontractors are allowed to work on follow-up projects if they meet predefined criteria set by the owner. Characteristics of strategic partnering include open-book accounting, shared risk and reward, and open communication. According to Zheng et al. (2020), transitioning from project partnering to strategic partnering poses a substantial challenge with a focus on the institutional environment, organizational structure, and team dynamics. Furthermore, previous research suggests that a more strategic approach to project partnering can enhance projects in the construction industry (Moller & Bejder, 2004).

There have been successful examples of strategic partnering, but these are mainly restricted to client-contractor (Shimizu & Cardoso, 2002). However, there is a need to explore the phenomena all through the supply chain. To increase productivity in projects, contractors should improve their relationship with subcontractors and provide feedback and evaluations (Eom et al., 2008). A case study by Beach et al. (2005) found that the majority of interviewees from the general contractor believed that a long-term partnership with subcontractors would provide better support throughout the project. It is also emphasized that the benefits of collaboration will be apparent after several years of collaboration between the parties. The key to success in collaboration is the development of a shared understanding of expectations, shared visions, and a common goal for the project. A case study by Crutcher et al. (2001) found that the strategic partnership between an electrical subcontractor and supplier led to increased productivity and efficiency in material handling. A long-term partnership, based on principles that benefit both parties, will most likely be beneficial for all parties involved in the execution.

A LEAN PERSPECTIVE ON STRATEGIC PARTNERING

Oakland and Marosszeky (2017, p.21) propose that for lean construction to be successful, project delivery should emphasize the creation of an integrated organization with the commercial interests of the parties aligned around the efficiency of the project as a whole. A lot of attention in lean management has been aimed at collaboration and partnering between different parties to enhance value creation (Jylhä & Junnila, 2014). Research has shown that combining Lean principles and partnering can create positive synergies (Falch et al., 2020). According to Karanjawala and Baretto (2018), the implementation of Lean Construction in partnering has resulted in more open communication, trust and transparency, and identification of constraints and non-value adding activities. The concept of strategic partnering corresponds with the Lean philosophy of continuous improvement as it aims to achieve learning outcomes both at the organizational level and across different projects (Paulsen et al., 2022). Furthermore, since strategic partnering is lasting for more years and over several projects, it can be easier to implement Lean principles in the involved organizations.

THE KNOWLEDGE GAP

Most of the literature regarding strategic partnering has been limited to either client-contractor, contractor-subcontractor, and a few contractor-designer. However, few publications examine strategic partnering with multiple actors, such as client-contractor-subcontractor, and this aligns with the findings by Bygballe et al. (2010). In general, both Sundquist et al. (2018) and Zheng et al. (2020) state that it is a research gap regarding the concept of strategic partnering and that more case studies should be conducted.

METHODOLOGY

This study employed a qualitative research design by combining both a literature study and a case study. The literature study was based on the prescriptions of Arksey and O'Malley (2005) and the case study was designed based on the methods outlined by Yin (2018) for single-case studies. The goal of this research was to examine the phenomenon of strategic partnering between a client, contractor, and subcontractor in the construction industry in Norway.

The literature study was conducted to provide a comprehensive overview of the existing knowledge on strategic partnering in the construction industry. A structured search of relevant literature was conducted using various databases such as Scopus, Web of Science, IGLC, and Oria. After the literature search was reduced to a manageable amount the sources were evaluated by predefined criteria. The sources were evaluated by criteria such as the title, relevant keywords, abstract, conclusion, and an overall assessment of the publication. If the publication met the criteria mentioned above, reliability and credibility were considered.

The case study was conducted to provide in-depth insights into the phenomenon of strategic partnering in the construction industry in Norway. The case chosen for this study was two building projects within the same geographical region, and the same organizations participated in both projects. Table 1 shows some information about the two projects which were analyzed. Having been established for some time, it was possible to gather more detailed and nuanced information about the strategic partnership through different parties.

The primary method for data collection applied in the case study was in-depth semi-structural interviews. The selection of participants for the study was based on their roles in the projects. A total of ten informants from the client, general contractor, and main subcontractor were selected from the case projects. All ten interviewees participated in the first project while seven of these were also participating in the second project. The semi-structured interviews were conducted digitally. A list of open-ended questions was used as a guide for the interviews within the following main categories: contract, organization, and relations. The interview

questions were tailored to the research questions and for each subcategory, the participants were asked about their actions, experiences, and suggestions for what could have been done differently. The interviewer was also able to follow up on any additional points that arose during the interview. All interviews were recorded and transcribed for analysis. An example of an interview question was: "How would you describe the level of trust in the projects?".

Table 1: Facts about the two case projects.

	Project A	Project B
Location	Oslo, Norway	Oslo, Norway
Building type	Rehabilitation and new-built school building	New-built office-building
Contract type	Design-build with collaboration	Design-build with collaboration
Building dimension	ca. 17.000 m^2	ca. 24.000 m^2
Start of construction	Q2 2019	Q2 2022
Takeover	Q2 2021	Q2 2024
Sustainable goal	BREEAM[1] Excellent	BREEAM[1] Excellent

[1]BREEAM stands for Building Research Establishment Environmental Assessment Methodology.

The data collected from the literature study and the case study were first analyzed separately, but afterwards they were analyzed against each other. The literature study data were analyzed using thematic analysis. The data collected from the case study was analyzed using a process of coding according to contractual-, organizational-, and relational elements.

FINDINGS AND DISCUSSION

This chapter presents findings from interviews in the case study and evaluates them using the case study and theoretical framework. The chapter is structured into sections on contract, organization, and relations.

CONTRACTUAL ELEMENTS

The contract plays a vital role in any construction project. Even if the partnering concept emphasizes collaboration and building a relationship beyond the formal contract, there must nevertheless be a contractual relationship that ensures the foundation of the strategic partnership. In the case projects, the most important contractual relationships were between the general contractor and the client, and between the general contractor and the electrical subcontractor. In the early stages of the first project, the client made a strategic decision to procure a contractor who had the capacity and competence to partake and collaboratively develop the project together with the client. Key contractual elements identified were the following:

Design-build with collaboration was the preferred contract between the client and contractor.

Procurement not just on lowest price: Several different criteria were used. The competence of the contractor's personnel was a vital factor in collaborative project delivery.

Incentive model: where both client and general contractor worked towards a target price.

The parties did not prepare a formal agreement in advance that established that the partnership should continue through all the projects. The lack of an up-front strategic alliancing agreement seems to be in line with previous research (see for example Paulsen et al., 2022). An explanation may lie in the nature of projects. In contrast to industrial production, where the alliance will continue to produce the same product repeatedly, the parties will produce unique products

repeatedly. For the parties, it would therefore be too great a risk and uncertainty associated with formalizing the strategic collaboration at such an early stage (i.e., before the first project). Instead, they seek to use the first project to build a relationship and see if they can achieve some partnering effects that can form the basis for further collaboration.

The importance of selecting people who can collaborate and see both sides of an issue is emphasized, and it puts high demands on project management. In sum, the client allocated a lot of resources to the contracting process as their objective was to establish a strategic partnership with the contractor if the collaboration in the first project succeeded. As a supplement to price, experience, competence, and references were considered important criteria for selection, especially for complex rehabilitation projects. For the selection of an electrical subcontractor, the main criteria are based on price. However, it is pointed out by the subcontractor that the relationship and experience from previous collaboration could have influenced the choice of the electrical subcontractor.

In both projects, an incentive model was used where both client and general contractor were involved with a target cost contract, as described in Zimina et al. (2012). If the final cost was below the target price, the profit was shared between the parties. This also applies to overruns up to a certain amount. If the costs exceeded a certain percentage of the target price, the contractor had the risk. The contractor was awarded if they made good purchases that didn't affect the required quality. Furthermore, the design and target price were developed in parallel in this project. This allows the client to make more optimized decisions, increases and extends project flexibility, and reduces and shares risks between the parties. On the other side, late changes in the project can lead to more stress and friction in the design group managed by the general contractor. There was no further incentive in the contract, but based on the performance of the first project there was no doubt that the contractor would get the second project. For the subcontractor, there were not used any contract nor cost-related incentives.

According to the interviewees, there were some formulations in the contract regarding how the collaboration through the project should be. However, all interviewees state that it can be difficult to appraise if formulations, such as trust, comply with the contract during the project. To make strategic partnering work every party must put in the effort and integrate themselves within the project organization. The issue of productivity within the construction industry has been a longstanding concern, and therefore this was addressed in the interviews. The first project was delivered ahead of schedule, with a finished product that met the client's expectations and demands, with a few minor discrepancies. Additionally, the project was completed within the target price agreed upon by the client and contractor. Given the complexity and short implementation period of the project, the subcontractor deemed the overall productivity to be high. This corresponds with the findings of Kubal (1996) where strategic partnering between the client, contractor, and subcontractor improved the project results.

ORGANIZATIONAL ELEMENTS

In both projects, it was important for the client with early contractor involvement. The contractor was involved in the predesign phase in both projects. The first project was priced based on the completed pre-project, typically at the frame application level. The electrical subcontractor was involved early after the general contractor was chosen, as a part of the contractor team. The interviewees presented a nuanced view of the early involvement of the contractor as they listed both advantages and disadvantages. In the early phase of the project, it can be difficult for the client to assume or foresee how much different operations will cost during the project and how long it will take to complete each operation. With early involvement, the contractor will be able to contribute with knowledge of the constructability (Tadayon, 2018).

Early involvement of key parties can also lead to increased trust between the key parties over time and improve efficiency. The involvement of subcontractors before the commencement of construction allows for better preparation and increased preparedness for the project (Nevstad et al., 2018). As Beach et al. (2005) describe, the subcontractor will be able to provide better support if they are involved at an early stage. However, both the general contractor and the electrical subcontractor state that too early involvement of contractors can lead to higher uncertainty and more confusing surroundings. There should be some goals and objectives developed by the client before contractors get involved. For example, the tenant joined the project late, with the result that significant changes to the design were required. If the involvement of different parties isn't strategically assessed in advance, it could result in wasteful activities such as rework on the design of the project. Reflecting on the first project, it may have been beneficial for the tenant to have been involved earlier, or the design team could have made their solutions more flexible. If the solutions are being locked at an early stage, it could lead to waste because changes require redesign.

During the first project and the current early phase of the second, there were very few conflicts among the parties involved. There was a clear strategy and mutual understanding among the different parties that issues or disagreements should be addressed at an early stage and a project level. One of the reasons for this approach was to prevent the history of the conflict from being forgotten in case it was prolonged. This can be said to be in line with the partnering philosophy as one seeks to overcome disagreements or conflicts not by contractual clauses but by their shared commitment and interest in the project. One interviewee stated: "There were no conflict or bigger disagreements between the client and the contractor throughout the projects". However, another interviewee stated: "Between the contractor and the subcontractor, there may be a few more disagreements". This is because the execution phase is more dynamic than the early phase, and multiple disciplines needs to be coordinated.

If a resolution could not be reached between the client and the tenant, it was then brought to a steering group composed of representatives from the client's organization and the tenant's organization. If they were unable to reach an agreement, the matter was escalated to a dispute or legal action. The client evaluated both the progress and the economic impact of the case before making a final decision. According to the interviewees, there were minimal conflicts and no unresolved cases. There is a mutual understanding among the interviewees that disagreements primarily occur during the construction phase, whereas the pre-project phase is relatively static.

In the transition from the first project to the second, considerations were made regarding the transfer of key personnel. One interviewee stated: "The most important element is to transfer key personnel from the previous project". Continuity among key project participants is an important factor for achieving success in a long-term partnership (Black et al., 2000). The general contractor plans to transfer four out of eight individuals from the project team, while the electrical subcontractor transferred all their personnel from the first project to the second. This continuity can create synergies for the upcoming project as the trust and relationships between the participants have already been established through the previous project. This aligns with the findings of Sundquist et al. (2018), where relationships developed through project partnering can be extended into strategic partnering. According to an interviewee, the upcoming project may be vulnerable if the key participants are not transferred. The level of uncertainty is reduced by the parties becoming familiar with one another and having a clearer understanding of each other's methods and performance capabilities. This corresponds well with the findings of Bresnen and Marshall (2002), where a lack of continuity of key personnel and relationships can lead to problems for the long-term collaboration and transfer of knowledge between the parties.

Table 2 presents experiences within organizational elements. An interviewee noted that productivity was deemed satisfactory in the project due to two key factors. Firstly, swift decision-making by the client, contractor, and tenant regarding any possible changes to the building helped maintain an optimal workflow in the project. The strong trust and relationship established among the parties facilitated an efficient decision-making process. Secondly, the project's progress plan was well-conceived, resulting in minimal delays caused by the need to wait for other contractors to complete their work.

Table 2: Summary of experiences within organizational elements.

Element	Good experiences	Bad experiences
Early contractor involvement	Enables better preparation and increased understanding of the project; enhances trust between the parties; increases efficiency	Too early involvement may lead to more confusion and uncertainty; can lead to more waste if solutions are locked in too early.
Conflict resolution strategy	Having a clear strategy and mutual understanding, disagreements or issues can be addressed at an early stage	If a resolution can't be reached, disputes can escalate to legal action
Continuity of Key Personnel	Can reduce uncertainty and create synergies; companies become familiar with each other's working methods and capabilities.	If there is a lack of continuity of key personnel, long-term collaboration and knowledge transfer can be more difficult

RELATIONAL ELEMENTS

Throughout the first project and early phase of the second, all interviewees reported that the level of trust between the parties was sufficient and increasing. By understanding each other's working methods mutual trust developed throughout the projects. In a rehabilitation project, such as the first one, uncertainty can be a challenging factor and difficult to control. According to all interviewees, trust is a prerequisite for collaborative project delivery and a successful strategic partnership. As one interviewee stated: "Trust is essential in this collaborative model. Without it, such contracts do not function properly". According to another interviewee, it typically takes around one year to establish a trustworthy relationship. Trust between the parties is crucial during chaotic periods. As Chan et al. (2003) describe, uncertainty can be an underlying challenge in building trust between parties. This is also acknowledged by the interviewees. However, due to the early involvement of both the contractor and subcontractor they were able to start building trust and relationships between the project participants at an early stage. Koolwijk et al. (2021) state that trust is one of the success factors for strategic partnering. It is noteworthy that trust naturally develops when the project results are positive (Beach et al., 2005). However, incidents that threaten the trust between the project participants on a larger scale than in the first project can occur. As this was a complex and large-scale building project, late changes from the tenant could have been challenging for the trust between the parties.

Throughout the projects, there have not been implemented dedicated evaluation meetings regarding the partnerships. However, there has been some evaluation ongoing through the general contractor reporting on quality, economics, and progress. The feedback the contractor receives from the client will indicate the client's satisfaction. A similar report is done by the subcontractor at the same time. The interviewees state that it is common to conduct an internal evaluation of the projects. However, according to an interviewee, it is not common to conduct other forms of project evaluations during or after projects. There is mutual consent among the interviewees that evaluation meetings are something they should establish between the parties, especially at the end of projects. Often it can be challenging to change the scope and take a step

back when you are in the project. One should ask what went well and what could have been done better. Since the pre-project for the second project was underway while the first project was in the final phase, the client did not want to disturb the contractor with heavier evaluations. Such a period can be very hectic for the contractor, but the client still believes it could have been done at a later time. Given the lack of formal agreements for the strategic partnership between the parties, the continuity of key participants and transfer of experiences was important.

This kind of knowledge transfer could have contributed to fewer mistakes in future projects. According to the findings of Cheng et al. (2004), conducting evaluations of internal performance within the organization is important for achieving success with strategic partnering. This aligns with the execution of the first project, where internal evaluations were carried out by all three involved parties. However, the general contractor should have conducted a more comprehensive evaluation of the electrical subcontractor to create a win-win relationship in the long term (Eom et al., 2008). Given that the subcontractor has worked with the general contractor previously, it could be beneficial to conduct evaluations to further develop the partnership and at the same time identify opportunities for improvement. One interviewee explains that collaboration combined with predictability is essential for delivering good results. Key relational elements were identified:

> The level of trust between the involved parties was sufficient and increasing throughout the first project and through the start of the second.
>
> Trust is a prerequisite to successful strategic partnering and collaborative project deliveries.
>
> Evaluation of the project and collaboration should have been carried out, especially at the end of the projects.

A successful strategic partnering relies, among other things, on effective collaboration between the contractor and subcontractor. Research indicates that by developing a positive relationship between them, productivity can also be enhanced (Eom et al., 2008). Additionally, the electrical subcontractor plans to use the same supplier on the second project and this could lead to more productivity according to Crutcher et al. (2001). However, it can be quite challenging to quantify whether productivity was good as there is little comparison basis.

CONCLUSIONS

This study analyzed two case projects to identify the presence of contractual, organizational, and relational elements in strategic partnering. Furthermore, it contributes to research on Lean construction by exploring strategic partnering as a collaborative project delivery method. The examination included an examination of the client, general contractor, and electrical subcontractor. This study provides a detailed and in-depth examination of strategic partnering, and as such, the results should not be considered representative of the broader phenomenon. Rather, the findings may offer a more in-depth understanding of the topic and be of use to individuals and organizations who consider strategic partnering in their projects. Furthermore, this research may also contribute to the existing knowledge about strategic partnering. The study reveals that many principles and characteristics outlined in the existing literature regarding strategic partnering were also present in the case projects. It was found that spending excessive time formulating collaboration specifications is an unnecessary and non-value creating activity. Project participants in the first project experienced improved productivity, aligning with the Lean philosophy of creating value for the client. The essential part of the collaboration between the parties is that each participant commits and dedicates themselves to the partnership.

The client and contractor developed a target price to ensure shared risk and reward, which can be important in collaborative project deliveries. Additionally, this study found that early contractor and subcontractor involvement is an important success factor in strategic partnering.

It contributes to both establishing a relationship between the parties and building trust at an early stage. At the same time, the contractors are more prepared to commence the execution phase. Furthermore, a clear hierarchy for conflict resolution is emphasized through strategic partnering. There was a clear understanding between all project participants that any conflict or disagreements should be resolved at the project level. Continuity among key personnel in all parties throughout the projects was an important factor because replacing one of the main participants would require building new relationships from scratch. The following critical success factors were identified throughout the projects in a non-specific order.

Target price development

Early contractor involvement

Building relationships at an early stage

Conflict resolution strategy

Contingency of key project participants

Evaluation between projects

So far, the case study reveals that there is currently a lack of established best practices for evaluating each other's performance within the strategic partnership. To ensure the implementation of Lean principles, such as continuous improvement, it can be beneficial to arrange meetings where collaboration between the parties is evaluated. This can provide useful information about potential changes for both the pending and upcoming projects throughout the whole supply chain. To create a deeper understanding of the effects and benefits of strategic partnering in the construction industry further research is needed, including case studies and interdisciplinary studies.

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