

Putting the Collaborative Style of a Successful Football Team in a Lean Construction Context

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Abstract

Question: Can collaboration techniques from another performance environment inspire Lean Construction theory?

Purpose: The Norwegian football club Rosenborg BK (RBK) was a well-recognized force in European club football during its heyday in the 1990s. Led by the legendary coach Nils Arne Eggen, they regularly shocked Europe's top teams with great results after implementing a successful philosophy based on collaboration. The importance of collaboration is well-emphasized in Lean Construction (LC) theory, but more discussion about creating a willingness and culture for collaboration seems to be lacking. Therefore, this conceptual paper suggests broadening the existing theory by presenting Nils Arne Eggen's "Best Foot theory" principles through a new theoretical lens. The collaborative "Best Foot theory" is seen in an LC context and discussed with the "Five Big Ideas" from Lean Project Consulting, Inc. as the starting point.

Research Method: A conceptual approach is used by analyzing already accessible data from another branch of knowledge and presenting it in a different context to offer another perspective to the current Lean Construction literature.

Findings: A collaboration mindset that can inspire further development of the Lean Construction theory is proposed. Much of the current theory about collaboration in LC projects focus on collaborative contracts, systems, and approaches and fails to consider creating a collaborative culture among the performers. The "Five Big Ideas" are contemplating this, and the "Best Foot theory" adds more meat to the bones by giving successful practical examples for each idea.

Limitations: This is a conceptual paper, and the practical applicability of the findings is not explored in a construction context.

Implications: The "Best Foot theory" expands current LC theory by giving successful practical examples on how to create a culture where the practitioners in a performance group *want* to collaborate.

Value for authors: The paper expands current theory on collaboration in LC.

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Introduction

With the emergence of Lean Construction (LC) in the Norwegian AEC industry (Lohne et al., 2021), the term *collaboration* emerges in a new context. This paper seeks to present a different perspective to a collaboration-based theory used by a Norwegian football team by linking it up against the “Five Big Ideas” presented by Lean Project Consulting, Inc. The five big ideas are: 1) collaborate; really collaborate, throughout design, planning, and execution, 2) optimize the whole, 3) tightly couple learning with action, 4) projects are single-purpose networks of commitments, and 5) intentionally build relationships on projects (Macomber, 2004). The importance of collaboration is well-established in LC literature (e.g., Tzortzopoulos et al., 2020), and according to Simon and Varghese (2018), lean concepts can only be successfully adopted when they align with the organizational culture. Still, there is limited literature about creating a collaborative culture in Lean Construction projects. A search for papers at iglc.net with the search words “collaborative culture/mindset” returned only three papers. Therefore, this paper intends to encourage a shared discussion about implementing a collaborative culture/mindset by presenting the collaborative performance of a successful sports group and linking it to the LC theory.

“*No man is an island,*” John Donne famously wrote in 1624 (Donne & Robbins, 2014). This phrase significantly describes the essential part of Nils Arne Eggen’s “Best Foot theory,” which was the foundation of the Norwegian football club Rosenborg BK’s (RBK) European success in the late 1990s and early 2000s. The collaborative RBK mindset is well known in Norway, particularly in RBK’s hometown Trondheim. The term “collaboration” summarizes Nils Arne Eggen’s ideas on how many people, in general, interact through a Nordic social-democratic mindset. One of the ground pillars in Eggen’s theory about collaboration is to make yourself and your teammates better by playing on each other’s strengths.

The term “Best Foot” is an expression of the principles in Eggen’s theory, which is to understand and reinforce both individual and team members’ core skills to get the best common result. The key is to give all an opportunity to expose their unique expertise. Everybody must be open and explicit about their skills and communicate with the other teammates to exploit this opportunity. Collaboration is far more effective if all actors willingly pull in the same direction, and the relational skills of a group are far greater than the sum of isolated individual skills. Eggen himself summed up the “Best Foot theory” on the front cover of his book: “collaboration – the road to success” (Eggen & Nyrønning, 1999). With collaboration based on the “Best Foot” principle at the core of their operation, RBK won the Norwegian league from 1992 until Eggen’s retirement in 2002 and continued to win in 2003 and 2004, making it a total of 13 consecutive championships. In addition, the team qualified for the UEFA Champions League and competed with Europe’s best teams during this period. While football was already professionalized in the biggest European clubs, RBK’s success was achieved almost exclusively by local and regional semi-professional players.

This paper aims to conceptualize the ideas brought forward by Eggen by looking at them in an LC context, with a basis in the “Five Big Ideas.” The ideas presented and analyzed in this paper are mostly taken from Eggen’s book in Norwegian, “Godfoten,” and supporting contributions from TV documentaries, podcasts, and articles related to his ideas. It is acknowledged that a limitation of the research is that the two main approaches in this paper, “Best Foot theory” and “Five Big Ideas,” might not be applicable in other domains, as relatively few people constructed the approaches within their domain. The research question of this paper is:

Can collaboration techniques from another performance environment inspire Lean Construction theory?

The paper has been structured as follows. First, LC theory about collaboration is presented. Next, the methodology is described. Then, the “Best Foot theory” is presented, and the ideas are discussed in an LC context. Finally, a conclusion is given.

Collaboration culture in a LC context

A project’s performance is affected by how well the principal (i.e., project owner/client) and agent (i.e., project manager/contractor) cooperate. According to Müller and Turner (2005), the best project performance is obtained through a collaborative approach. Collaboration is considered a vital element of LC (Engebø et al., 2020; Haghsheno et al., 2020; Garcia & Murguia, 2021). Collaboration is also a central element in the “Five Big Ideas that are Reshaping the Design and Delivery of Capital Projects,” presented by Lean Project Consulting, Inc. at a Sutter Health conference in 2004. The five ideas can be considered as a foundation for creating a lean organization culture and are as follows (Kraakenes et al., 2019):

1. Collaborate; really collaborate, throughout design, planning, and execution. Reduce scope changes late in the project by close collaboration between teams early in the project development.
2. Optimize the whole. Collaboration at the project level reduces conflicts and disputes caused by push management and productivity management at task level.
3. Tightly couple learning with action. Secure continuous improvement.
4. Projects are single-purpose networks of commitments. Commitments bind teams and their members within projects.
5. Intentionally build relationships on projects. Improve project relations by establishing trust, openness, a willingness for innovation, and the ability to learn.

The term collaboration is sometimes confused with cooperation. Schöttle et al. (2018) examined the difference between these two terms in an LC context and found that the relationship between project actors is stronger in collaboration than in cooperation. In both terms, the actors are dependent on other actors to reach their goals. However, whereas cooperation is an inter-organizational relationship based on independent structures without a shared vision or mission, collaboration is created by developing a shared goal and a jointly developed project culture based on trust and

transparency. Gomes and Tzortzopoulos (2020) divide the several developments that support collaboration in LC into:

- **Collaborative contracts:** new ways of arranging contracts and procurement procedures to facilitate collaboration among stakeholders. An example of this is relational contracts where risk and profit are shared across the project actors, “forcing” the project actors to collaborative activities.
- **Collaborative systems:** several conceptual approaches in LC theory are developed in a way where the execution of the process will require a certain level of collaboration. One example is Target Value Delivery, with joint decision-making to increase value of all aspects related to a project’s outcome.
- **Collaborative approaches:** measures implemented to encourage collaborative decision-making processes. The use of a big room and co-location are examples of how projects can create an environment for multi-disciplinary and collective decision-making.

Garcia and Murguia (2021) classify collaboration into four dimensions: trust, project uncertainty management, client’s operational capability, and business relationships. They argue that client attributes and supply chain capabilities are the most influential and uncertain factors in deciding the collaboration level in an inter-organizational relationship. Nguyen and Waikar (2018) stress the importance of a collaborative culture for a successful implementation of Lean but do not elaborate further on the subject. Ahmed et al. (2018) discuss the lack of collaborative culture in UK construction. By looking at the performance of quantity surveyors, they concluded that factors such as persistent practices, inefficient procurement approaches, and narrowed views on collaboration hindered a better collaborative performance. Hunn and Fyhn (2019) present a framework for building and sustaining a culture with a collaborative mindset for disruptive performance. They argue that, in addition to a structured set of rules, you also need experienced and ambitious leadership, commitment from leaders to reinvest and sustain the culture, and transparency and trust among all members of the organization.

Method

This paper has a conceptual approach by analyzing already accessible data from another branch of knowledge presented in a different context to offer another perspective to the LC literature. Jaakkola (2020) presents four types of research design for conceptual papers: theory synthesis, theory adaption, typology, and model. The research design in this paper is the theory adaption type. Theory adaption is described as “*Changing the scope or perspective of existing theory by informing it with other theories or perspectives*” with a goal of “*Expanding the application domain of an existing theory or concept by introducing a new theoretical lens*” (Jaakkola, 2020, p. 22). According to Gilson and Goldberg (2015, p. 128), conceptual papers do not need to present new theories but rather “*bridge existing theories in interesting ways, link work across disciplines, provide multi-level insights, and broaden the scope of our thinking.*” There are some things to consider before deciding to write a conceptual paper.

Cropanzano (2009) argue that the authors need to overcome three problems to write a good theory article:

- **The “So what?” problem:** Additional theory on the chosen topic needs to contribute considerably to the reader beyond what is already accessible.
- **The integration problem:** If the author gathers various sub-theories with different research ideas and presents them without a unified purpose, the article may end up as a series of mini-reviews rather than an integrated whole.
- **The breadth problem:** Conceptual articles are targeted, leading to an article presenting a narrow set of ideas and a list of hypotheses more suitable as an introduction to an empirical study than an independent study.

A conceptual paper does not have empirical data. The conceptual paper data equivalent to data from empirical research is an analysis of chosen theories and concepts (Jaakkola, 2020). In this paper, the primary source is a book containing the theories and concepts brought forward by RBK’s head coach, Nils Arne Eggen, during the club’s most successful years (Eggen & Nyrønning, 1999). His theory is thoroughly explained with practical examples. However, the book is slightly outdated, so additional sources from more recent years have also been used, including two TV documentaries where Eggen and several former RBK players were interviewed (Hansvoll & Westereng, 2016; Toldnes & Grytøyr, 2019), two podcasts in Norwegian where Eggen was invited as a guest (Sundet & Lidbom, 2016; Sagbakken & Rasmus, 2021), and one Swedish podcast who thoroughly described Eggen’s philosophy and the team’s 1996/1997 season, but where Eggen did not participate himself (Niva & Andreasson, 2020). All the text in the “The Best Foot theory” section is based on the abovementioned sources. The author has assembled information from all the sources and, with the help of his understanding and knowledge of the theory, was able to write a summary suitable for academic work. In this way, additional and more recent information was added when Eggen’s book proved insufficient.

Since the analyzed theory is placed in an LC context, a literature review on collaboration in Lean Construction has been conducted.

The Best Foot Theory

Rosenborg BK’s Ideology/Philosophy

A central principle of the “Best Foot theory” is to acknowledge that all skill is complementary: you are excellent or mediocre together. To be good at something is not an individual achievement. With this in mind, you can develop relational skills. With Eggen at the helm, RBK formulated several so-called *postulates*, short sentences that the organization was to live by and follow. Some of them are mentioned in this text as quotes by Eggen. The team’s practical philosophy is based on basic ideas common to everyone involved in the organization. These basic ideas are described in the following.

Our Success is the Learning of Skills

Eggen divides practice and learning into two different terms. Practice is considered a necessity for learning, but not every practice provides improvement. Learning in a team is about changing the attitude of individuals positively and long-lastingly. The most important aspect of learning in RBK is associated with the learning of individual skills related to the collective collaboration pattern. This is essential in football, where a complicated cooperative collaboration pattern, with principles, formations, and systems formed as a playing style, is crucial for performance. *Practice* needs to be arranged to clarify what is to be learned for the practitioner. First, he must *understand* the skill he will learn and perform it best. Next, he must *recognize* the current learning moment, the skill, in the learning situation. When these two principles are achieved, reinforcement can streamline learning. When the practitioner has understood, recognized, and positively reinforced the learning moment, the learning process must be repeated until the correct solution has stained the practitioner's brain. Only when that occurs has one truly learned.

This type of *convergent* learning is primarily applicable for creating individual and collective movement patterns for improved team play. RBK used it for improving every type of skill. The big drawback of the model is that it can prevent creativity and new solutions, ultimately excluding improvement. For higher quality practices, Eggen realized they also needed to consider *divergent* learning, which adds this creative dynamic necessary to search for better solutions, both collectively and individually. However, the convergent learning points create the foundation for where divergent creative learning can take place. Eggen compares it to jazz improvisation: "Only when the common theme is settled and under control, the creative improvisation and further development make sense" (Eggen & Nyrønning, 1999, p. 125).

According to Eggen, football skills are not limited to techniques in the sense of how shots, tackles, dribbles, etc., are performed. It is about how these technical attributes are used in collaboration with the team players' movements and technical skills, in specific situations, and relative to the opponent's movement. In short, football is an intelligent game, and what is happening inside your head might be even more important than what you can do with your feet. A wide specter of basic skills becomes prerequisites to perform a specific activity - for instance, the correct tactical and technical choices in football. According to Eggen, there are six essential factors for learning skills:

- **Technical:** These skills are the ability to perform the actual execution of an action, such as passing, shooting, receiving, heading, or dribbling the ball.
- **Tactical:** These skills are about understanding the technical skills' situation. An assessment of the situation with teammates, opposing players, the ball, and the field constitutes the overall picture.
- **Physical:** These skills are based on physical resources like endurance, strength, height, speed, etc.
- **Psychological:** These skills consist of a set of partial skills hugely connected to nature or nurture. In football, such skills could be fast recognition of correct solutions, the ability to calculate the speed of the ball, and other

players' movement at the same time (also called *timing*). Closely related are cognitive skills, such as processing and interpreting a recent observation.

- **Social:** These are collective consequences of individual psychological skills. It is these skills that transform individuals into team players. The most important attribute is the ability to cooperate, which develops into collaboration. The highest form of collaboration is achieved when a group of practitioners goes from *having to* and over to *wanting to* achieve the same.
- **Pedagogical:** The prerequisite to achieving that every group practitioner *wants* to pull in the same direction lies in developing the individuals' pedagogical skills. This is the ability to make other individuals better and take responsibility for the team's and other individuals' development and performance.

These skills develop over time. First, technical skills are learned. Next, you learn to exploit these skills tactically. In the end, you learn to use the skills to make your teammates and team better.

Our Performance Goals are a Product of Continuous Improvement

The second foundation of the RBK philosophy naturally follows the first one. There is nothing more demotivating for a group than when leaders, far from the process, present way too ambitious performance targets without any plan for *how* to achieve those targets. The RBK model was inspired by Japanese management theory about quality-based process management, where workers and leaders work together with joint responsibility for the best possible result and performance. Eggen implemented this mindset with *involvement* as a key term, with the postulate "Involvement is the best quality assurance" (Eggen & Nyrønning, 1999, p. 148). The idea was that when the players are allowed to affect the process, they develop a responsibility for the quality of the process and its result.

The "Best Foot theory" is inspired by the Japanese mindset found in *Gemba* and *Kaizen*, two well-known terms in Lean theory as they are vital principles in the Toyota Production System. *Gemba* is the actual place where real added-value work is done, and *Kaizen* is the Japanese term for continuous improvement (Liker, 2004).

Be Resolute, Creative, and Solution-Oriented

The year before Eggen's first term as manager, RBK finished second in the league and lost only a few games, conceding only five goals. However, they barely scored goals (15) themselves. Their 18 matches had an average of 1,1 goals per game. As a result, few supporters attended the home games even with success in the league. This made Eggen realize the value of providing entertaining football. He said, "No supporter should pay hundreds of kroner just to watch throw-ins from the sideline!" (Sundet & Lidbom, 2016).

In 1988, RBK exposed how they wanted their appearance on the field to look. They wanted to be recognized for *fun, attractive, and supporter-friendly football*. Eggen said, "It is a fundamental difference in football if you aim at many goals or concentrate on preventing your opponent from hitting the goal. The former is *creative*, while the latter is *destructive*" (Sagbakken & Rasmus, 2021). For Eggen and the team, to be

resolute and creative meant something more in a larger context. It is meant to be solution-oriented rather than problem-oriented. Winners are looking for opportunities in every aspect of the game, while losers pay attention to the problems. Problems often appear during a rapid change in the game. This is when we benefit from being creative and positive. People commonly resist change and waste much energy in this opposition, while a high-performance group with a resolute mindset is more forward-looking. Instead, they do not waste energy on past incidents and are more concerned about what is next to come. Even after his biggest victories, Eggen used to say, "our most important match has not been played yet."

Have a High Spirit and Temper

Eggen argued that no one could perform if they are dead serious all the time. You need to see the laughter in seriousness and the seriousness of laughter. A good mood can be learned, and with a good mood, it is easier to tolerate a bad mood that is later destroyed by laughter. A good mood creates a culture of openness and trust in the performance group. It regulates tension, especially the temper and aggression necessary in a competitive context. Eggen formed a postulate: "In Rosenborg, you are allowed to lose your temper. But only for one second at a time!" (Eggen & Nyrønning, 1999, p. 157), and he meant that good mood and humor are every performance group's life elixir. They fill the psychological energy tank and enable conflict solving. Take joking seriously. Cultivate humor and humorists.

Act Admirable

Be humble and act normal and likable, no matter how good or bad you performed in the last match. Good performance needs to be recreated each game, and the last game quickly becomes history. Everyone is individually and collectively responsible for creating an image they want related to the club through behavior on and off the pitch.

RBK shall be accessible to everyone with an opinion and emphasize *accessibility* and *transparency/openness*. The symbol of this openness was the team's clubhouse. During the height of RBK's success, the clubhouse was open for a visit for everyone, particularly fans and journalists. There, they could drink coffee and chat with old and new players, coaching staff, fans, and old club members. Through this accessibility and transparency, the team created a culture for gaining valuable resources through watching and speaking with people with relevant skills. "Show us your skills and how to implement them in our team," Eggen said (Eggen & Nyrønning, 1999, p. 168). His view was that such an attitude was a basic for all relational skills created and maintained as open and tacit knowledge.

An important aspect of Eggen's philosophy was to entertain the local community. He said, "Rosenborg shall be a team of locals, for the locals" (Niva & Andreasson, 2020), meaning that the team's core should consist mainly of talent raised in local and regional clubs. This was to make it a big honor for locals to play for the club and increase the local pride when it achieved success. Besides, Eggen was adamant in his belief that young local players were just as able to secure team success as expensive and established foreign players. In 1997, RBK beat AC Milan 2-1 at San Siro stadium in

Milano, arguably their most memorable victory. They achieved it with a starting line-up that consisted of as many as nine (out of eleven) local players.

“The Best Foot”

“The Best Foot” is an expression that spins off that most football players are either right-footed or left-footed. In short, it means that, for instance, a right-footed player should be allowed to improve and exploit his right-footed skills, while it is sufficient for him only to maintain his left-foot skills. However, it is essential that his teammates know his strengths and put him in positions to do his job in the best possible way. In this example, the teammates should play the ball to his right foot. If his teammates do not know he is a right-footed player, they might constantly pass the ball to his weaker left foot. Short-term, this would hamper the team’s attack and scoring chances. Long-term, the player receiving the ball would need to increase his left-foot skills, which would prevent the improvement of his right foot. This is, of course, a banal example, simplified to make the theory understandable. Most people have more than one strength, a football player’s “best foot” might even be that he or she can play well with both feet, and any person’s skills are not limited to only physical or technical skills.

If each individual practitioner performs his role correctly, the player with the ball knows his teammates’ exact movements and can act accordingly. Still, the roles did not necessarily limit any players’ creativity. This creative freedom was likely an important reason RBK could repeat their success for a decade, even when they had to replace the players that went to bigger European clubs. New players could perform in their own way, within the limits of the designated role. However, the practitioners should not be too creative outside their role because that means a risk of putting their teammates in an uncomfortable situation.

Attacking play was the collective RBK’s “best foot.” In Eggen’s eyes, it was “suicide” to play a defense-minded playing style, no matter the opposition or score in a game. This belief was based on the fact that they never practiced that type of play. This mindset caused some occasional ugly defeats, a 2-7 defeat against Paris Saint-Germain in 2000 being the worst, but it also gave the team many remarkable results. Among these results are wins against reigning champions from England (2-1 against Blackburn in 1995), Italy (2-1 against AC Milan in 1996), and Spain (2-0 against Real Madrid in 1997, the only game Real Madrid lost when they won the Champions League this season). They also humiliated SK Brann in the Norwegian league with 9-0 in 1994 and then 10-0 against the same team two years later (Transfermarkt, 2022a, 2022b).

To put these results in a Norwegian context to show the extraordinariness of the feat for foreign readers: the only other Norwegian team that has ever even managed to qualify for Champions League is Molde, once, in 1999. They won one match and lost five.

The “Best Foot theory” in a LC context

How does the “Best Foot theory” fit in an LC context? The question is answered by evaluating the theory compared to Macomber’s “Five Big Ideas.”



Collaborate; Really Collaborate, Throughout Design, Planning, and Execution

Gomes and Tzortzopoulos (2020) divided collaboration in Lean Construction into collaborative contracts, systems, and approaches. There is much about facilitating collaboration in the Lean Construction literature, e.g., sharing risk and creating collective ownership of the task at hand. However, there seems to be a gap in theory on how organizations can act great at collaborating beyond being bound to it through contracts, systems, and approaches. The railroad construction project Venjar-Langset is an example of a project that achieved a collaborative culture without having formal structures primed toward collaboration (Klakegg et al., 2021). They meant that the involved participants were more vital for the collaborative culture than the formal structures. The “Best Foot theory” might have something to offer in such ways.

The “Best Foot theory” urges every actor to play on their absolute strengths while still having unity as a top priority. Play on your strengths to make your colleagues better and allow them to make you better. It is necessary to acknowledge that others can bring more suitable solutions to the table to achieve this.

Optimize the Whole

The second big idea is to optimize the whole and avoid silo thinking, which is also the essence of the “Best Foot theory.” You allow yourself to use your core skills, but you do so with the collective performance in mind.

With a basis in Gemba, Eggen saw a value in aiming at product development by centering the organization around the actual producing part, the football players. The team also created a culture for the actual value-adding producers (the players) to bring forward ideas. The Kaizen mindset was evident in the continuous improvement of the collaboration between the players and their strengths and the will to strive to be better than the last game, both in terms of results and skills. Well-summarized with Eggen’s postulate, “our most important match has not been played yet.”

Tightly Couple Learning with Action

The third big idea highlights the importance of learning from each action. Macomber (2004) mentions the *Deming Cycle* approach, Plan-Do-Study-Act for learning, which is interesting because Eggen also used this learning approach in the team (Eggen & Nyrønning, 1999, p. 205).

RBK believes a broad spectrum of basic skills becomes prerequisites to perform any specific activity. These skills are divided into technical, tactical, physical, psychological, social, and pedagogical skills, and they develop over time. First, technical skills are learned. Next, you learn to exploit these skills tactically. In the end, you learn to cooperate, which develops into the ability to collaborate, which is to use the skills to make your teammates and the team better. True collaboration is achieved when the practitioners take responsibility for their own and their teammates’ development and performance. Then, the whole performance group is pulled in the same direction.

Projects are Single-Purpose Networks of Commitments

We believe that the “Best Foot theory” can inspire organizations in construction projects to collaborate fruitfully. In a project, a group of strangers is put together in a temporary social system, where the project leader should *activate a network of commitments*.

The most significant difference between RBK and LC projects is that there is much practicing in a sports organization with only 90 minutes of actual production one or two times per week. In projects, there is constant production and minimal practicing. Still, the reality is that the practitioners in both cases have a common goal: to beat the opponent for RBK or achieve an excellent project performance in an IPD project. The key is to achieve the same commitment in a producing environment as in a practicing environment. For RBK, accessibility and transparency were crucial for achieving a collective commitment throughout the organization. The key with the “Best Foot theory” is to make the performers go from having to collaborate to wanting to collaborate, believing that all skill is complementary: you are either good together or bad together.

Intentionally Build Relationships on Projects

Frictions and minor conflicts are expected in inter-organizational relationships. According to Macomber (2004), we cannot learn, collaborate, optimize or make commitments in a project without a relationship based on trust, respect, appreciation, care for each other, and practices for commitment-making. Projects will be faster on track to success when the team members become friends. Five steps are suggested in the fifth big idea: 1) explore each other’s personal intentions and ambitions, 2) cultivate practices for commitment-making, 3) make it your habit to acknowledge and appreciate team members, 4) foster an environment for healthy conflict, and 5) make the project setting a place where people can be their authentic selves without fear of judgment or mockery.

These steps are strikingly similar to much of what has been presented about the “Best Foot theory” above. However, the “Best Foot theory” also adds humor to the mix. A good mood creates a culture of openness and safety in the performance group. It regulates tension, especially temper and aggression, in a competitive context. A good mood kills a bad mood with laughter. In RBK, minor conflicts were used to positively improve the project by creating discussions where better solutions for all parties involved were found. You are allowed to be angry, but only for one second at a time.

The “Best Foot theory” is also applicable in a broader context. For RBK, attack-minded football was seen as their “best foot.” Malvik et al. (2021) describe a project where the choice of procurement procedure did not suit the project’s chosen collaborative project delivery method. The project chose what they believed to be the best contractor without considering if the best contractor was the best collaborator. The procurement method would be more suitable for a transactional project delivery method. A better choice would be to choose a dialogical approach, playing on the collaborative delivery method’s “best foot” by considering the collaborative nature.

Conclusions

This paper set out to change the scope of existing theory by informing it with another existing theory introduced through a new theoretical lens. This was achieved by answering the research question, “*Can Collaboration techniques from another performance environment inspire Lean Construction theory?*” To decide if the paper reached its intended purpose, we look at the research regarding the three problems that a conceptual paper needs to overcome (Cropanzano, 2009).

The “So What?” problem demands that additional theory contributes considerably to what is already accessible. The “Five Big Ideas” were used as a starting point for the Lean context to answer the research question. The “Best Foot theory” shows great applicability in a Lean context by possessing many of the same principles. However, the theory presents solutions that expand the existing collaboration theory in an LC project. Much of the current theory about collaboration in LC projects focus on collaborative contracts, systems, and approaches and fails to consider creating a collaborative culture among the performers. The “Five Big Ideas” are contemplating this, and the “Best Foot theory” adds more meat to the bones by giving successful practical examples for each idea.

The integration problem calls for an integrated whole rather than various sub-theories without a unified purpose. The unified purpose of the paper is to create a collaborative culture in an organization.

The breadth problem emphasizes that conceptual articles should not present a set of ideas and hypotheses too narrow to suit an independent paper. A collaboration mindset that can inspire further development of the LC theory is proposed, and the RQ is thus answered. However, the limited length of a conference paper has affected the scope, and more research is needed to prove that the theory works in a construction project, which should be positioned as future research. That would require creating an implementation strategy, which is the logical next step for putting the theory into practice. A good idea would be to test the theory in a construction project that plans to use a collaborative approach, such as an IPD or alliance project. Another plan for further research is to look deeper into how Eggen’s six learning points can relate to learning in the construction industry.

References

- Ahmed, S. i., Pasquire, C., & Manu, E. (2018, 16-22 July). Evaluating Why Quantity Surveyors Conflict With Collaborative Project Delivery System. Proceedings of the 26th Annual Conference of the International Group for Lean Construction, Chennai, India.
- Cropanzano, R. (2009). Writing nonempirical articles for Journal of Management: General thoughts and suggestions. In (Vol. 35, pp. 1304-1311): SAGE Publications Sage CA: Los Angeles, CA.
- Donne, J., & Robbins, R. H. A. (2014). *The poems of John Donne*. Routledge.
- Eggen, N. A., & Nyrønning, S. M. (1999). *Godfoten: Samhandling - veien til suksess*. Aschehoug.



- Engebø, A., Lædre, O., Young, B., Larssen, P. F., Lohne, J., & Klakegg, O. J. (2020). Collaborative project delivery methods: A scoping review. *Journal of Civil Engineering and Management*, 26(3), 278-303.
- Garcia, A., & Murguia, D. (2021). A scenario-based model for the study of collaboration in construction. Proc. 29th Annual Conference of the International Group for Lean Construction,
- Gilson, L. L., & Goldberg, C. B. (2015). Editors' comment: so, what is a conceptual paper? In (Vol. 40, pp. 127-130): SAGE Publications Sage CA: Los Angeles, CA.
- Gomes, D., & Tzortzopoulos, P. (2020). Chapter 20: Challenges and Opportunities for Early Project Collaboration. In T. P. Fazenda, Kagioglon, M. and Koskela, L. (Ed.), *Lean Construction: Core Concepts and New Frontiers* (pp. 408-425). Routledge.
- Haghsheno, S., Budau, M. R.-D., & Russmann, E. (2020). Collaboration Barometer-Development of a Tool for Measuring Collaboration During Design and Construction. ANNUAL CONFERENCE OF THE INTERNATIONAL GROUP FOR LEAN CONSTRUCTION,
- Hansvoll, T., & Westereng, O.-P., (Directors). (2016). *Hvit Tornado* [TV documentary]. Hansvoll Film. <https://play.tv2.no/programmer/fakta/hvit-tornado-1718473.html>
- Hunn, L. K., & Fyhn, H. (2019). Building and Sustaining a Culture With a Mindset for Disruptive Performance: A Case-Study From Bispevika Norway. Proceedings of the 27th Annual Conference of the International Group for Lean Construction, Dublin, Ireland.
- Jaakkola, E. (2020). Designing conceptual articles: four approaches. *AMS review*, 10(1), 18-26.
- Klakegg, O. J., Ekambaram, A., & Olsson, N. (2021). Evaluering av prosjektet Venjar-Langset.
- Kraakenes, E., Tadayon, A., & Johansen, A. (2019). Comparing Lean Construction With Experiences From Partnering and Design Build Construction Projects in Norway. Proceedings for the 27th Annual Conference of the International. Group for Lean Construction (IGLC), Pasquire C. and Hamzeh FR (red.), Dublin, Ireland,
- Liker, J. (2004). *The toyota way*. Esensi.
- Lohne, J., Torp, O., Andersen, B., Aslesen, S., Bygballe, L., Bølviken, T., Drevland, F., Engebø, A., Fosse, R., & Holm, H. T. (2021). The emergence of lean construction in the Norwegian AEC industry. *Construction management and economics*, 1-13.
- Macomber, H. (2004). Putting the Five Big Ideas to Work. *Lean Project Consulting, White*.
- Malvik, T. O., Kalsaas, B. T., Shabani, R., & Sandvik, K. O. (2021, 14-18 July). The Impact of BVP in a TVD Based Project Delivery. Proceedings of the 29th Annual Conference of the International Group for Lean Construction, Lima, Peru.
- Müller, R., & Turner, J. R. (2005). The impact of principal-agent relationship and contract type on communication between project owner and manager. *International Journal of Project Management*, 23(5), 398-403.
- Nguyen, T. Q., & Waikar, S. S. (2018, 16-22 July). A Relook at Plan Reliability Measurements in Lean Construction and New Metrics From Digitized Practical Implementation. Proceedings of the 26th Annual Conference of the International Group for Lean Construction, Chennai, India.
- Niva, E., & Andreasson, H., (Hosts). (2020, October 21). When We Were Kings [Audio podcast episode]. In 53. *Rosenborg BK 1996*. P. D. Media. <https://podcasts.apple.com/no/podcast/when-we-were-kings/id1484354859?i=1000495459912>

- Sagbakken, O. K., & Rasmus, P., (Hosts). (2021, September 1). Rasmus & Saga [Audio podcast episode]. In *Stort Eggen-intervju: Om Hareides RBK, forholdet til døden og telefonen fra Liverpool*. Adresseavisen.
<https://podcasts.apple.com/no/podcast/rasmus-saga/id1081007574?i=1000533993166>
- Schöttle, A., Arroyo, P., & Christensen, R. (2018, 16-22 July). Demonstrating the value of an effective collaborative decision-making process in the design phase. Proc. 26th Annual Conference of the International Group for Lean Construction (IGLC), Chennai, India.
- Simon, S. M., & Varghese, K. (2018). Assessment of Organizational Culture in Construction - A Case Study Approach. 26th Annual Conference of the International Group for Lean Construction, Chennai, India.
- Sundet, S. B., & Lidbom, T. A., (Hosts). (2016, April 12). Heia Fotball [Audio podcast episode]. In *Ep. 86 - Nils Arne Eggen*. NRK.
<https://podcasts.apple.com/no/podcast/heia-fotball/id811129576?l=nb&i=1000366700232>
- Toldnes, G., & Grytøyr, J., (Directors). (2019). *Nils Arne Eggen: Livet med Rosenborg* [TV documentary]. Discovery Norge.
<https://www.discoveryplus.com/no/video/sport/nils-arne-eggen-livet-med-rosenborg/nils-arne-eggen-livet-med-rosenborg>
- Transfermarkt. (2022a). *Rosenborg BK - Cup History*. Transfermarkt. Retrieved February 16 from <https://www.transfermarkt.com/rosenborg-bk/pokalhistorie/verein/195>
- Transfermarkt. (2022b). *SK Brann - Record vs Rosenborg BK*. Transfermarkt. Retrieved February 16 from https://www.transfermarkt.com/vergleich/bilanzdetail/verein/1100/gegner_id/195
- Tzortzopoulos, P., Kagioglou, M., & Koskela, L. (2020). *Lean Construction: Core Concepts and New Frontiers*. Routledge.

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