

Conflict Management in the Construction Industry: A New Paradigm

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Conflict management in the construction industry has been extensively studied. Afterall, conflicts are an inevitable part of any construction project, and when left unresolved they consume a lot of time and energy. Most of these studies view conflicts as incidents, focusing on one aspect of conflict management: causes, prevention, or resolution. This paper argues that conflicts are continuous processes of escalating and de-escalating tensions. By modelling this continuous process, this paper provides new insights into underlying mechanisms. Thereby, providing parties with concrete guidance to control and optimize conflict management processes.

Through the analysis and evaluation of current research combined with studying practice, a framework was developed. The framework shows that the individual aspects of conflict management are interconnected. Furthermore, the combining of these aspects provides practitioners with concrete guidance for conflict management in complex construction projects. The results show that any measure taken by a party will impact not only the conflict at hand but also the relationship between parties therefor future conflict management for the remainder of the project. Preventative measures are shown to have a significant impact on a conflict's (de-)escalation dynamics. Additionally, de-escalation measures that consider the longevity of a project are found to have a positive impact on the long-term relationship between the client and contractor. The asymmetrical role of both the client and contractor underlines the importance of a continuous conflict management approach.

Keywords: Conflict Management; Construction Industry; Client-Contractor Relationship; New Paradigm

1. Introduction

Conflicts are ubiquitous and unavoidable in the construction industry (Iyiola & Rjoub 2020). They occur when two or more parties disagree on a given issue (Chen et al., 2014; Irfan et al., 2019; Tabassi et al., 2019). Causes range from mutual frustration and tension to project complexity (Charehzehi et al., 2017; Chen et al., 2014; Helen et al., 2007). For construction projects to be completed efficiently and effectively project teams must ensure project goals are not jeopardized by these conflicts.

Conflict management research, within the context of construction industry, has focussed on individual aspects of conflict management, including but not limited to causes, prevention and resolution. Thereby, viewing a conflicts' make-up as separate entities as opposed to a continuous process of escalating and de-escalating dynamics.

Glasl has developed a conflict escalation model that recognizes these escalation and de-escalation dynamics (Glasl, 2015). His escalation ladder was also used by Griffioen (2017), who analysed conflict intervention dynamics within the construction industry. The escalation ladder acts as a conflict thermometer, enabling one to assess the severity of a given conflict (Glasl, 2015). The model consists of nine stages and three escalation phases, see figure 1. For the purpose of this research the focus is upon the different escalation phases.

The first conflict escalation phase as described by Glasl is the win-win phase. This phase signifies an environment in which both parties still have the intention to find a mutually beneficial solution. The second phase, win-lose, is the phase in which one of the parties is not able to fulfil its interests. Escalation beyond the second stage ends in neither party fulfilling their interests.

Tensions	Debate	Actions instead of words	Coalitions	Loss of face	Threat strategies	Limited destruction	Total annihilation	Together into the abyss
Win - Win			Win - Lose			Lose - Lose		

Figure 1 Glasl's escalation ladder (Glasl, 2015)

The three different phases of conflict escalation are not unique to Glasl's model. They have been studied in relation to conflict outcomes by many. As a result, the Glasl definitions can be expanded upon, making it easier to recognize a given phase.

The win-win phase is characterized by the cooperative attitude of all parties, supported by a wide range of contact points between conflicting parties (Tabassi, et.al., 2019). Additionally, parties are focussed on longer term goals and the creation of a solid relationship between them (Thompson, 1998). During this phase, the parties invest in the social environment in which they find themselves.

The win-lose phase commences when one of the parties takes a more defensive position (Leung & Yu 2017). Consequently, the transparency between the parties starts to fade (Thompson 1998). Furthermore, the parties shift their attention to short term gains, to ensure their interests are met. As a result, the parties are more concerned with the formalizing of tasks and responsibilities to minimize their individual risks (Tabassi, et.al., 2019).

The lose-lose phase occurs when one of the parties makes the conscience decision to not fulfil their own interest to prevent the opposing party from meeting theirs (Tsyplakova, et.al., 2018). All parties take a defensive position, focussing on the short-term consequences of their behaviour (Tabassi, et.al., 2019). As a result of their behaviour trust between the parties erodes further (Thompson 1998).

Conflict causes in the construction industry range from project complexity to insufficient information (Li et al, 2021; Shash & Habash, 2021; Tsyplakova et al, 2018; Wang & Liu, 2021; Yusuf &

Pretorius, 2017). Given the wide range of conflict causes, several authors have categorised conflicts based on typology, to enable the analysis of conflict dynamics (Lu & Wang, 2017; Vaux & Dority, 2020; Jaffar et al., 2011). Of the categories found in literature task, relational and process conflicts are used most often.

Task conflicts occur when two or more parties disagree on how common goals are to be accomplished (Lu & Wang, 2017). Common causes of these disagreements include liability, scheduling, and quality concerns. Task conflicts can be beneficial to a project as participants are forced to re-consider, coordinate, and develop their ideas in conjunction with other participants (Lee, et.al., 2017).

Relational conflicts are caused by underlying issues between two or more parties (Lu & Wang, 2017). These conflicts surface in the form of irritation and frustration between the parties (Vaux & Dority, 2020). The causes of these conflicts are often related to miscommunication, cultural differences, or another mismatch between parties causing tensions (Lee et.al., 2017 & Behfar et.al., 2011).

Process conflicts arise when two or more parties disagree on how a construction task should be carried out (Vaux & Dority, 2020). They are known for their escalatory potential and severe consequences (Wu, et.al, 2019). A process conflict can result in delays, budget overruns, and a drop in productivity (Vaux & Dority, 2020). Wu et.al. (2018) found that process conflicts are often a result of contractual flexibility, providing individual parties with the opportunity to each take a different path. It is important to overcome process conflicts in the early stages as they can easily lead to new conflicts and put a strain on the parties' relationship.

There are numerous ways in which parties can manage conflicts, many of which have been studied throughout the past decades. Most recent studies identify and use 5 main conflict management styles, see figure 2 (Iyiola & Rjoub, 2020; Li et al., 2021; Lu & Wang, 2017). Cooperation occurs when all parties jointly work towards a solution that satisfies everyone's interests. A competitive management style occurs when neither party is willing to make any concession. As a result, the strongest party wins. Conflict avoidance occurs when both parties choose to stay clear of the conflict, subsequently neither party can fulfil their interests. An accommodating style is characterized by one party putting the interests of the opposing party above their own. The fifth management style is known as compromising, both parties make concessions causing neither party to meet all their interests, yet the result is acceptable to both.

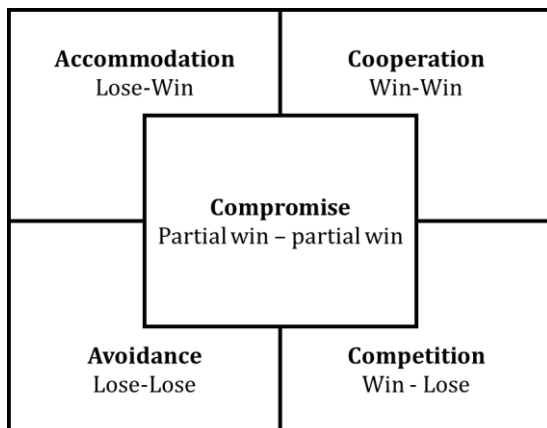


Figure 2 Conflict Management Styles

Although these management styles provide a general guide for parties to determine how to act in order to realize their desired

outcome, they do not provide concrete de-escalation measures. A preliminary scan of available literature has revealed three different categories of de-escalation measures: preventative, alternative and traditional measures. Preventative measures are taken prior to a conflict occurring. These preliminary measures often aim to minimize the effects of conflicts. Contrary to preventative measures, alternative and traditional measures are taken once a conflict arises. Alternative measures focus on joint problem solving (Marzouk et.al., 2011). Parties, possibly including a third neutral party, aim to find common ground without jeopardizing the mutual relationship. Whereas traditional measures are characterized by the parties acting as individual entities (Marzouk et.al., 2011). Subsequently, traditional interventions often result in parties directly opposing one another, thus only one party can win (Menessa, et.al., 2010). Alternative measures are often praised for creating a win-win outcome with lower costs than traditional measures (Menessa, et.al., 2010).

This paper views conflict management as a continuous process of escalating and de-escalating tensions. Hence, conflict causes, prevention, and resolution are aspects which contribute to the wider conflict management process. This specific approach demands a further understanding on the dynamics between these aspects in a continuum of actions and reactions. These insights were gained through the analyses and evaluation of literature and a case study.

The case study was obtained from a governmental organisation from now on referred to as the client. As a result, their projects are often executed within a political environment, adding to a project's complexity. The adopted case study is a construction programme consisting of five individual projects, two of which had been completed and three were ongoing, at the time of data collection. Given the complexity and scope of the individual projects each was assigned a separate project team. Furthermore, each project was awarded on an individual basis to different contractors.

The intertwining of theoretical and practical aspects has led to the development of a guideline. It enables the evaluation of the continuous conflict management process. Additionally, the guideline provides a tool to practitioners to view conflict management as a continuous process.

2. Research Methodology

The research considers two parts, a theoretical and a practical part. The theoretical section considers the current body of knowledge to gain an understanding of the different conflict management techniques. To acquire an understanding of conflict management dynamics in practice qualitative data will be collected from five projects within a programme approach. The techniques used to obtain the relevant information are elucidated below.

The goal of the literature review is to create an overview of the research domain to form a theoretical foundation. To do so effectively, the systematic literature review method is used. This type of literature review creates an overview of the available control mechanisms. Hence allowing one to synthesize and compare specific information, thus creating an overview of the mechanisms referred to in literature (Snyder, 2019). To ensure the quality of the papers used, they should be peer reviewed, published in relevant civil engineering and/or management journals, and preferably published within the past 10 years. The papers will be sourced from one of four databases: Scopus, Web of Science, Civil Engineering Database, and the ASCE library.

A semi-structured interview consists of a list of pre-composed questions that relate to the research objective. A key element of a

semi-structured interview is that the questions do not have to be asked in chronological order, they serve as a holding pattern during the interview (Olatunde & Olenik 2021).

The first block of questions aims to increase the understanding of the dynamics of the conflict. This involves placing the conflict within Glasl's escalation ladder and understanding how this conflict came about. The Glasl model recognizes three conflict escalation phases, each with their own characteristics (Glasl, 2015).

The presentation of the different intervention possibilities and the considerations that were applied, will be questioned by means of the STIR technique. STIR is an intervention-oriented method that maps the social environment of a problem to gain a better understanding of the trade-offs an actor makes (Fisher 2007). There are two versions of a STIR. STIR 1.0 is used for gaining knowledge, while STIR 2.0 looks at the different trade-offs that played a role in choosing a given path. A STIR can therefore help to look back in a structured way at the choices that were made and why these were made. The STIR consists of three elements described below (Fischer 2007):

- Midstream Modulation: the analytical basis that captures the choice process and the associated adjustments and trade-offs (modulation).

- Decision Protocol: a semi-structured platform for dialogue, description, or inquiry to identify the modulation. This protocol can be used planned or spontaneously and lasts between 20 and 40 minutes.

- Embedded Humanist: the researcher (also called STIRer) rotates within the team and organization but at the same time maintains a distance from the group to map the work process. STIR assumes that choices made are a result of reactions.

The model distinguishes between four different components of choice:

- Opportunity: the perceived situation that requires an action.
- Trade-offs: the elements that influence the response.
- Alternatives: the possible ways of responding.
- Outcomes: the anticipated effects of a given alternative given the trade-offs involved in responding to the situation.

The different choice components are represented in a matrix, see Figure 4. This representation has the advantage of allowing the STIRer and the participant to capture the choice context. The STIR begins by identifying several opportunities. Of these, one is chosen to focus on during the protocol. Once this is determined, the STIRer and participant move through the matrix with-the-clock. Fischer (2019) emphasizes that it is especially important to let the conversation flow naturally. Thus, a category may be skipped only to return to it later.

3. Research and Exploration

An initial literature scan identified three different types of (de-)escalating measures: preventative, alternative and traditional. Where preventative measures are taken prior to a conflict occurring, alternative measures focus on joint problem solving, and traditional measures consider parties as individual entities.

3.1. Preventative Measures

Preventative measures aim to avoid and minimize the effects of conflicts when they do occur. These measures attempt to influence the behaviour and attitude of both the client and contractor prior, during, and post conflict. Preventative measures can be taken with the goal of creating either a win-win, win-lose, or a lose-lose scenario.

The most prominent measure aimed at the realisation of a win-win outcome is fostering collaboration among the parties, as collaboration fosters joint problem solving (McNary, 2003; Chan, et.al., 2004; Femi, 2014). Thereby increasing the potential for win-win outcome when a conflict does occur. An important part of collaboration is that common norms and values reach across all management levels, from the boardroom to the workplace (Chan, et.al., 2004). Collaboration amongst parties is primarily governed by procurement strategies. Where traditional procurement strategies are task oriented, partnering focusses upon the long-term relationships between parties (McNary 2003).

Other measures aimed at achieving a win-win outcome are the formulation of common goals, long-term focus, and the sharing of information (Thompson 1998). Effective, frequent, and open communication among parties will increase the chance of a win-win outcome (Loosemore et.al., 2000).

Preventative measures do not necessarily result in a win-win outcome. Actors may choose to not apply the preventative measures above, as to up the pressure on the opposing parties (Chan, et.al., 2004; Stehbins, et.al., 1999). There are a few measures that increase the potential for a win-lose and lose-lose scenario. These include the creation of a competitive environment, limited points of contacts between parties, and the notion that one succeeds at the expense of the other parties (Thompson 1998).

3.2. Alternative Measures

Alternative measures are centred around conflict resolution techniques that consider the wellbeing of bilateral relationships. The most common of which are mediation, arbitration, and dispute resolution board (DRB).

Mediation is a popular resolution technique that has been favored within the construction industry (Alaloul, et.al., 2018). Mediation concerns the negotiation between conflicting parties under the supervision of a neutral third party (Alaloul, et.al., 2018). The mediator listens to both parties and organises dialogue sessions. By listening to both parties, the mediator can identify differences in the perspectives of the conflicting parties. By reflecting on these differences, the mediator aims to attenuate the differences between the conflicting parties (Harmon 2002, Moore 2014).

Mediation can also contribute towards creating more trust between the conflicting parties (Senan, et.al., 2018). By enabling the parties to identify the core issue at hand, they are more likely to find an acceptable solution. The main advantage of mediation is that parties continue to communicate throughout the resolution process. Furthermore, mediation requires conflicting parties to come to a joint resolution, the parties have a responsibility to overcome the dispute. A disadvantage of the mediation process is that the result is non-binding. As a result, the resolution process is very dependent upon the intention of both parties (Alaloul, et.al., 2018).

Arbitration is a conflict resolution process whereby conflicting parties present the conflict scenario to a neutral third party. Based on this information the neutral third party makes a binding statement on how the conflict should be resolved (Alaloul, et.al., 2018). The third party must be appointed unanimously by the conflicting parties. The arbitration procedure is like a litigation procedure with a few distinct differences. An arbitration procedure is nearly always conducted behind closed doors. Furthermore, there are no limits on the type of evidence that can be admitted to the arbiter.

The conflicting parties generally favour arbitration over litigation. Primarily due to the influence the conflicting parties

have when it comes to choosing the arbiter (Alaloul, et.al., 2018). Additionally, arbitration is a relatively quick process, with limited costs. Especially in comparison to its more traditional counterpart, litigation. A disadvantage of the arbitration is that costs have continued to increase in recent years (Alaloul, et.al., 2018). In part due to its increased demand and formalisation of the arbitration procedure.

A dispute resolution board (DRB) is a commission that is appointed at the start of a construction project to shadow the project team. Throughout the project the DRB is informed on the project progress and possible issues that can or have arisen (Kammaing, 2019). The DRB usually consists of three members appointed by the project actors. They receive information on the project through site visits, reports, and periodic meetings. As a result, when a conflict arises the DRB invites the parties to share their perspectives it can base its verdict on the wider context (Alaloul et.al., 2018). A DRB provides conflicting parties with an opportunity to resolve conflicts based on the interests on project interests. As opposed to the interests of the conflicting parties. The disadvantage of a DRB is the upfront investment this measure requires. Furthermore, the effectiveness of the DRB is highly dependent upon the actions of the individual members (Kammaing, 2019).

3.3. Traditional Measures

Traditional measures are based on the notion that conflicting parties act as individual entities. Thus, they are primarily concerned with achieving their interests. There are two main measures that are traditional in nature: negotiation and litigation.

Negotiation is often used by conflicting parties to de-escalate conflicts. In a negotiation opposing parties share their concerns and interests with one another, to come to a mutually acceptable resolution (Alaloul, et.al., 2018). The goal of a negotiation is for conflicting parties to resolve the issue relatively quickly. These conversations often occur within multiple levels of an organisation (Alaloul, et.al., 2018). When negotiations on an operational level do not result in an immediate solution, the negotiations escalate to the tactical and strategical levels.

Litigation is the undertaking of legal steps, like the start of a judicial process, with the goal of resolving a conflict (Alaloul, et.al., 2018). Conflicting parties often view this measure as a last resort. In part due to the prolonged duration and unpredictability of the ruling. Furthermore, the ruling is legally binding and often has a limited concern for the interests of the project. The disadvantage of the litigation is that there is little regard for the relationship between parties.

3.4. Measures and Conflict Escalation Phases

The attitude of parties has a great impact on the course of a conflict. Without interventions the party with the most power wins a conflict (Loosemore et.al., 2000, Leung & Yu 2001). However, there are measures which can be taken by both parties to increase the probability of a win-win scenario occurring. These preventative measures are taken before a conflict arises. Thus, they cannot be attributed to a specific conflict escalation phase.

When a conflict does occur alternative and traditional measures are used to resolve and/or de-escalate a conflict. Helen et.al. (2007) suggests that a traditional measures like litigation should be used as a last resort, see figure 3. The reason being that alternative measures are more receptive towards the social circumstances of a conflict. Consequently, the use of alternative

measures will not jeopardize the relationship between the client and contractor (Helen, et.al., 2007).

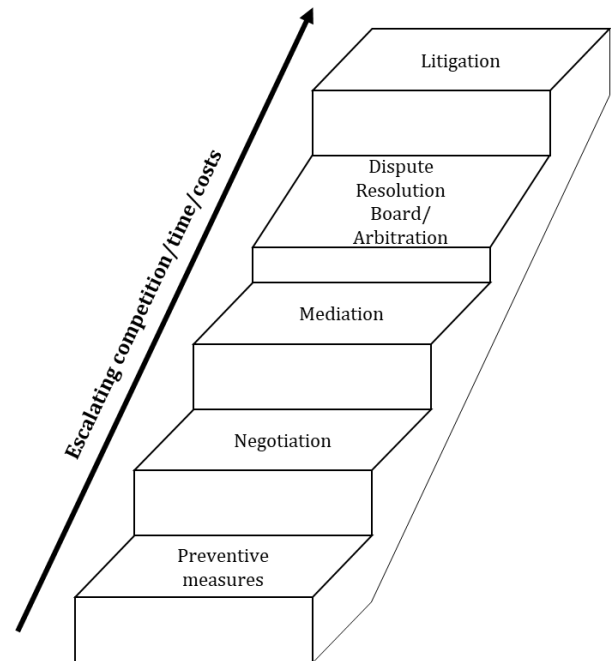


Figure 3 Conflict resolution measures retrieved from (Helen, et.al., 2007)

3.5. Theoretical Perspective on Conflict Management

A win-win outcome is characterized by a cooperative attitude, long-term focus, and its consideration for the social context. Preventative measures that increase the chance for a win-win outcome include the exchange of information, working towards common goals and the multiple points of contacts throughout the organisations. When a conflict does arise parties must adopt a cooperative management style to ensure the conflict does end in a win-win. Consequently, measures should be aimed at the realisation of a joint resolution by which both parties are able to serve their interests. This is most likely with alternative measures including mediation and DRB.

A win-lose outcome is recognized by the defensive attitude of the one of the parties, formal environment, and the focus of realizing self-interest with no regard for the other parties. A lack of trust and transparency between parties often encourages a party to become more defensive. A win-lose outcome is often the result of interventions which encourage compromise. These can be both traditional and alternative measures. Including but not limited to measures like negotiation, arbitration and DRB.

A lose-lose outcome is the result of both parties not fulfilling their interests. There are multiple causes of this outcome: parties can choose to simply ignore the issue at hand, or all parties adopt a defensive attitude. The measures that result in a lose-lose outcome are not oriented towards the interests of either party. The intervention most likely to result in a lose-lose outcome is litigation.

4. Conflict Management in Practice

Conflict management in practice has been studied through the analysis and evaluation of the two completed projects within the program approach. The data was gathered through interviews with project teams from both the client and the contractor. The

results distinguish between measures taken prior to and during a conflict.

4.1. Preventative Measures

Given the programs longevity the client has chosen to invest both time and effort into developing a cooperative framework. This framework consists of three parts: principles, goals/ambitions, and success factors.

The cooperation principles describe the way in which client and contractor want to work together. In other words, the values propagated by both parties. For example, transparency is mentioned as an important core value in all agreements. The agreements also emphasized how discussions should be handled. For example, one person states that discussions should be based on arguments, while another emphasizes that discussions should be about a problem and not about the people. In addition, several cooperation agreements also mention the importance of reliability, transparency, and timely information to the counterparty.

The cooperation framework also contains shared goals/ambitions. An overarching goal is to keep the end-user satisfied, both during realization and after completion. A second ambition that is mentioned by various project teams, is to take the project's surroundings into account. The program's projects are located within a city center, some close to popular tourist attractions. As a result, the projects could have serious consequences for nearby businesses. The client and contractor have also established more traditional goals, such as project delivery within budget and on time in this part of the cooperation agreement.

The success factors of a collaboration are also laid down in the collaboration vision and in one of the collaboration agreements. It is striking that these success factors are not SMART (specific, measurable, achievable, relevant, time-based) defined. For example, the agreements refer to good cooperation, satisfied environment/user, and risk management. Failure to capture success factors SMART can result in parties defining success in each area differently.

The drafting of the cooperation framework is supervised by a cooperation coach. The coach remains involved in the project teams even after this process. Their role can be seen as guiding the project teams to comply with the cooperation agreement and to act as facilitator and mediator when necessary.

Both project teams have also realized a location where the client and contractor work together. As a result, the two teams integrate better and the lines between the parties become shorter. In addition, there are also pre-planned 'Project Follow-up' sessions. These sessions provide the parties with an opportunity to maintain their relationship and discuss issues that indirectly affect the project.

The project teams described various scenarios in which one of the parties had to formally record a process, for example in the form of a letter. A letter can surprise the counterparty, in addition, certain wording can be sensitive to the counterparty. Indicating in advance that a letter will be written and possibly agreeing in advance what this letter will look like, prevents one party from being surprised by the action of the other.

Keeping the other party informed is also mentioned by both the client and the contractor as an important preventive measure. A way in which parties keep each other informed, is by frequently exchanging information between one another. This also has a downside. A project manager pointed out that too much information can be shared between the parties. Providing too much information can also be paralyzing. The project manager has indicated how sharing the political pressure can also be crippling.

After all, it is the task of the client to switch between the user (political) and the construction site.

4.2. Resolution Measures

A great deal of time and energy was spent on the collaboration between the client and the contractor. For example, there have been several sessions between the parties to shape mutual expectations, interests, and cooperation. The conclusions of these sessions were summarized in a cooperation agreement signed by the parties. The interviews revealed that this cooperation agreement played an important role in the course (prevention/escalation/de-escalation) of conflicts. Several interviewees indicated that consciously shaping the relationship and expectations has led to more mutual understanding. As a result, parties are willing to cooperate in finding a solution, even when one party does not immediately feel the impact of the conflict.

The interviews have shown that the mutual relationship between the parties has had a significant influence on the course of conflicts. For example, one of the projects saw little to no major conflict escalation. The biggest reason for this, according to the interviewees, was the effective exchange of information and the short lines of communication between the parties. Furthermore, the transparent actions of the parties in negotiations with subcontractors created a lot of trust. In other words, the active application of preventive measures. The other project experienced more mistrust between the parties during the early stages of contract negotiations. This largely arose from the failure to provide information in a timely manner and resulted in a more defensive attitude on both sides. As a result, tensions during the negotiations escalated into a larger conflict.

The conflict scenarios showcase various interventions were used. What stood out was that in almost all scenarios the parties first engaged in dialogue with each other. The purpose of the dialogue was that both the client and the contractor had a complete picture of the conflict. Both from their own perspective and from the perspective of the other. In some cases, this exchange of ideas was already sufficient to solve the conflict.

When dialogue did not lead to a solution the parties started negotiating with each other. In other words, where can both parties compromise in order to reach a solution together. The interviews with subproject two members showed that these discussions were also held in consultation with a facilitator (collaboration coach).

On a few occasions there were mediator sessions between the client and the contractor. In these sessions the collaboration coach had the role of mediator. In the described case this did not have a direct impact on the resolution of the conflict. However, the mediation session did ensure that the relationship between the parties remained stable and improved over time. One of the interviews has shown that they have not used mediation. They do recognize mediation as an intervention that would have been applied if the conflict had escalated further.

That mediation has had no direct influence on the conflict was not a surprise in this case. The contractor had already started with the legalization of the process. As a result, the interaction between client and contractor became more formal and external lawyers were involved in the negotiations.

Although none of the completed subprojects used an arbitration procedure, this intervention was mentioned as a last resort. It can also be concluded from the practical research that conflicts within this program did not escalate into a lose-lose scenario.

5. Guideline for Conflict Management

The guideline consists of three main elements; (1) characteristics of win-win and win-lose scenarios, (2) preventive measures and (3) the de-escalation techniques. The final version of the guideline is found in figure 4.

When a conflict occurs, it is important that both the client and the contractor know where they are on the escalation scale. In this way the parties know what they can do prior to a conflict to increase the chances of a win-win scenario or what they should pay attention to in order not to increase the chances of a win-lose. The guideline highlights the following characteristics of a win-win scenario; transparency, trust, cooperation is key, a long-term focus and a social environment. The characteristics of a win-lose scenario are a defensive attitude, short-term focus, success at the expense of the opposing party and a formal environment. Preventive measures that can be taken by both parties to increase the likelihood of a win-win scenario are striving for common goals, exchanging information, short lines of communication between the parties and a cooperative attitude. Preventive measure whereby the likelihood of a win-lose scenario is increased are focused on achieving their own interests, limited contact between parties and a competitive relationship.

When a conflict occurs, the relationship between the client and the contractor is put under pressure. The positioning on the escalation ladder therefore moves towards a win-lose scenario. To solve the conflict there are several intervention possibilities. It is important to carry out the interventions in sequence to avoid unnecessary escalation and thereby increasing the chances of a win-lose scenario. It is also important to carry out the interventions on all management levels (operational, tactical, and strategic). This is because the interests of both parties may be different at a different management level, also an outside view may provide a solution in the search for an acceptable solution.

The research has shown that the following interventions should be applied in the given order, dialogue, negotiation, mediation, legalization, dispute resolution board and arbitration. Where a dialogue consists of a conversation between the two parties so that the perspective of each is clear, which allows misunderstandings to be resolved. When dialogue does not provide a solution, negotiation can provide a solution. This intervention consists of a more formal process in which both parties make small concessions to reach a consensus. Mediation can provide an outcome when negotiations fail. This process consists of involving a neutral third party, with the aim of mediating between the parties to reach a solution to the conflict. In addition to mediation, parties can also choose to formalize the de-escalation through legalization. Legalization is characterized by the involvement of lawyers, whether from outside. When none of these interventions lead to a de-escalation of the conflict, a dispute resolution board or arbitration procedure can provide the solution. Where arbitration is a last resort to avoid a possible lose-lose scenario. Both interventions use a neutral third party to judge how the conflict should be resolved and/or how the parties should proceed. The difference between these two interventions is that a dispute resolution board is composed by the parties involved prior to a project. The board is kept informed about the course of events during the project. They are therefore aware of the project context which allows them to judge a given conflict based on its content.

5.1. Validation of Results

The guideline has been validated with the help of workshop sessions. The workshops will be held with project teams from both the client and contractors of the yet to be completed projects. Where possible, two managers from one party participate in the sessions.

A total of six workshops were held with different project teams from the client and the contractors involved in the renovation projects. All participants agreed that the different interventions were very recognizable. The classification of the escalation steps also broadly corresponds to how they work in practice. The guideline is seen by most participants to create awareness during conflict escalation. However, a few contractors also saw room for the guideline to record the conflict (de-)escalation process more formally. For example, by including it in the contract. It was said here, just as by another contractor, that this task often lies with the contractor.

The characteristics of the win-win and win-lose scenarios were recognized by all participants. Several of them also gave additional characteristics that also related to these scenarios. For example, characteristics such as focus on cooperation, taking care of each other and wanting to delve into the interests of others were mentioned to describe a win-win situation. Additional characteristics mentioned to describe a win-lose scenario were not realizing expectations, performing task and nothing extra, concessions on project goals and pressure from the supporters.

When evaluating the preventive measures, the participants again recognized the actions mentioned. However, they also had several additional measures that were applied in their renovation project as well as in other projects. It was stated in several workshops that working together at one location also had a major impact on the overall atmosphere of the project. In addition, making clear collaboration agreements has had an impact on the attitude and behaviour of the multidisciplinary team. In addition, other preventive measures have been mentioned, such as: the focus on cooperation, giving and taking, cooperation coach, home day, managing expectations, fixed consultation moments and openness.

The workshop participants also provided feedback on the interventions included in the guideline. The participants recognized most interventions and the order in which they are included in the guideline. There was an intervention that was not known to any of the participants, namely the use of a dispute resolution board. Upon further explanation, several participants indicated that they would then make use of a dispute resolution board or an arbitration procedure. The evaluation also showed that even when a conflict is in a win-lose scenario, all intervention steps are completed. The participants also did not fully agree on the positioning of the intervention, legalization. For example, several participants stated that engaging lawyers was really a last resort to avoid ending up in a lose-lose scenario. Other participants said that the lawyers are involved in an arbitration procedure to force a settlement. Arbitration is after all a procedure in which neither party has control over the outcome. It was also striking that clients indicated that they did not want to use lawyers, while contractors indicated that lawyers were involved early in the process to be able to represent their interests properly.

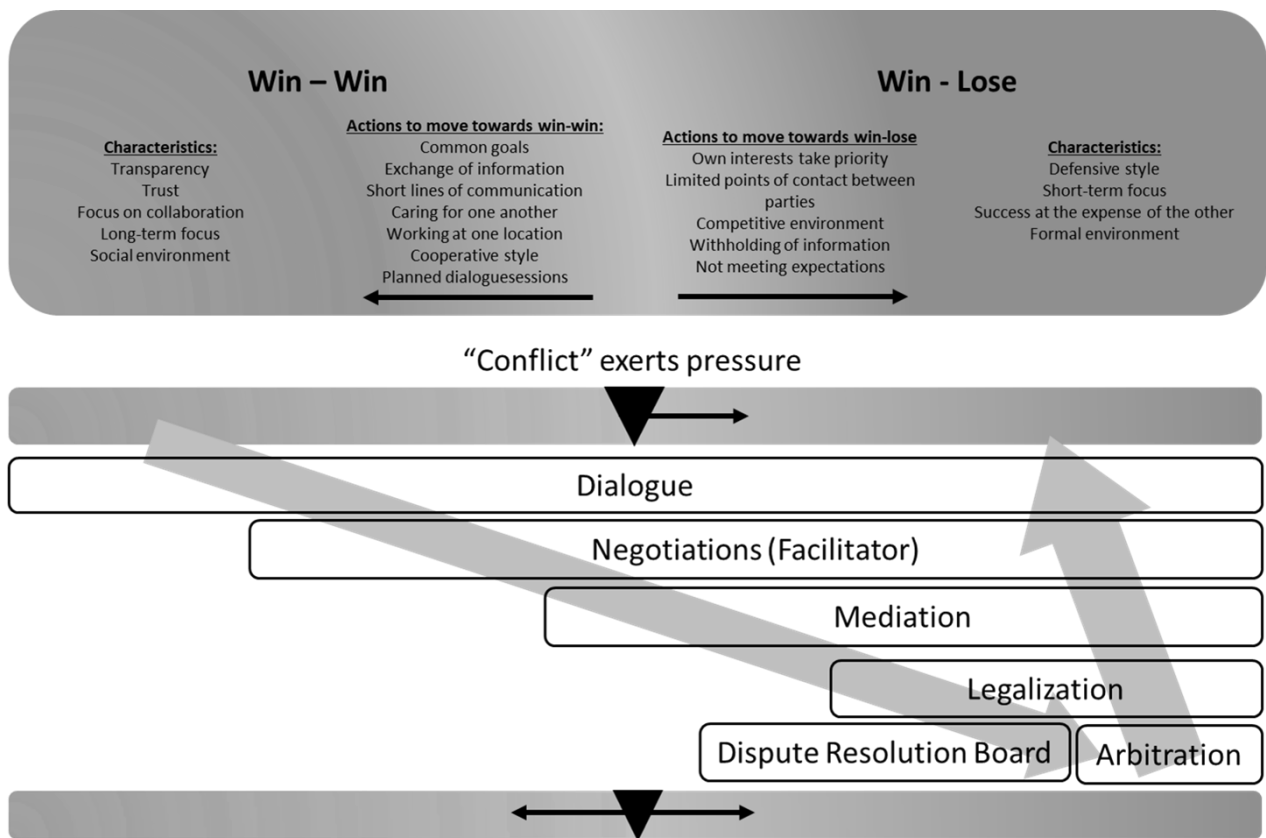


Figure 4 Conflict Management Guideline

6. Discussion

The theoretical perspective views conflict management as separate entities of conflict causes, prevention, and resolution. Practice has shown that actions taken by either party have a profound impact on the course of a conflict. This is supported by the findings of this research. The efforts made by the project teams to ensure collaboration among the parties have led to conflicts being solved in a timely and efficient manner. Furthermore, the project teams indicated that the preventative measures have prevented several conflicts from escalating further. Practice has also shown that de-escalating measures have long lasting effects. Where the contractor was trying to ensure their risks and responsibilities remained manageable, the client saw these actions as threatening to the collaboration. Helen et.al. recognizes that de-escalating measures have differing impacts on competition, time, and costs. This supports the findings of the case study which found that contractor's quick escalation caught the client off-guard. However, authors have stopped short of mentioning the longer lasting effects of the increased competitiveness between parties.

Preventative measures are described by Marzouk et.al. (2011) as measures taken prior to a conflict with the intention of trying to impact the conflict process. The consensus among authors has been that preventative measures focus on collaboration between parties (McNary, 2003; Chan, et.al., 2004; Femi, 2014). The degree of collaboration among parties has the most profound impact on a conflict's lifecycle. This focus on the degree of collaboration was also reflected in the case studies, as client and contractors were focussed on establishing a collaborative framework at the start of the programme. Although both completed projects had established a collaboration framework, agreed on by both the client and contractor, the amount of effort put into maintaining this collaboration varied. Noticeably, the project in which the

collaborative framework remained at the forefront conflicts were quickly resolved. Whereas the parties of the second project veered off course, requiring more severe de-escalation measures to be taken. This pattern is supported by Thompson et.al. (1998), who suggest that a more competitive environment enhances actors to become more focussed on their own interests.

In supporting the collaboration between parties, the client and contractor emphasized the importance of trust, information sharing, common goals, and a long-term focus. Additionally, they highlighted the importance of project follow-up sessions in maintaining the collaborative relationship. This is supported by research carried out by (McNary, 2003; Chan, et.al., 2004; Femi, 2014) who name similar measures to increase collaboration thereby decreasing the escalatory potential of a given conflict scenario.

Conflict resolution has two dominant perspectives, alternative dispute resolution and traditional dispute resolution. These perspectives have been the subject of many studies (Kammaing 2019, Alaloul et. al., 2018, Loosemore et.al., 2000, Leung & Yu 2014). In recent years, the benefits of alternative dispute resolution measures have caused them to become more mainstream. This trend converges with the findings of the case studies. There is still room for more use of alternative measures, including the use of DRBs. This relatively novel resolution measure has been studied by Kamminga (2019) and Alaloul et.al. (2018), yet the measure was still unknown to both the client and contractors.

Alternative resolution measures have been praised for considering the longevity and wellbeing of the relationship between parties (Marzouk et.al., 2011). Given that the analysed construction projects have invested a lot of time into obtaining a collaborative relationship, the use of alternative resolution measures are understandable. The alternative measures referred

to by both the client and contractor were dialogue, mediation, and arbitration. Although arbitration was seen by both the client and contractor as a last resort. Where mediation and arbitration have been recognized by literature as conflict de-escalation measures, dialogue has not (Helen, et.al., 2007). This is evident given that both the client and contractors interviewed all mentioned dialogue as the first step in any conflict de-escalation process. They claimed that dialogue was essential for both parties to gain an understanding of what the conflict is and the position of their counter party. Although the parties recognized that dialogue alone may not lead to de-escalation it is a vital part in ensuring further de-escalation measures are effective.

More traditional resolution measures such as negotiation and litigation have been studied for many years (Alaloul, et.al., 2018). Where negotiation is the first step when trying to de-escalate a conflict, litigation is seen as a last resort (Helen, et.al., 2007). The case studies show a similar pattern. With both client and contractors mentioning negotiations to de-escalate a conflict after dialogue between parties was unsuccessful. There was no consensus among the interviewees with regards to litigation. Where some saw litigation as a last resort to ensure their interest were met others were very hesitant in acknowledging the existence of such a measure. They viewed litigation as too risky, especially given the scope and interests of the parties involved.

Though litigation carried too much risk for most of the interviewees, the use of legal experts did not. By including legal experts into the process, the parties tried to force the other to make concessions, with the goal of ensuring one's own interests are met. The legalization of the conflict process caused increased tension between the parties. Given the profound impact this measure had on the progression of the conflict, it is noticeable that no such measure was found in literature. One could argue that legalization of the process is not a de-escalation measure but rather an escalatory one. However, given the intention of the actor was to legalize the process, thereby ensuring progress was made one could argue that such a measure should be seen as a de-escalatory measure.

The limited timeframe in which the research has been conducted implies that the proposed guideline has not been verified outside of the specific program approach. Consequently, the outcomes of this research should be seen as a steppingstone for further analysis of conflict escalation and de-escalation dynamics.

The validation session has shown that both clients and contractors are open to making conflict management an integral part of the project management portfolio. Notably there were some key differences in how each of these parties would go about this integration. The client was open towards initiating a more integrated approach, in their opinion the contractors should take some responsibility as well. The contractors were very firm in indicating that although they saw the benefits of implementing a more continuous conflict management strategy, this was the responsibility of the client. In other words, the initiation of a continuous conflict management approach lies with the client, but the contractor must be open and willing to invest in the approach. Eventually resulting in the contractor taking the lead once the project moves towards the execution phase.

7. Conclusion

Conflict management within the construction industry is multi-faceted; it involves not only the reaction to a conflict, but also the lead up towards a conflict scenario. The research has shown that any measure taken by a party impact not only the conflict at hand but also the relationship between parties and future conflict management for the remainder of the project. Consequently,

actors should be aware of the protracted impact their actions may have.

This paper distinguishes between two main stages of conflict management: pre-conflict and during conflict. Through theoretical and practical research this paper concludes that each of these phases contribute to the outcome of the current and future conflicts. Preventative measures predominantly impact the interactions between parties. Thereby shaping the relationship between two or more parties. Measures taken in reaction to a conflict are often with the intend to de-escalate. The research has found that measures which consider the longevity of a project are found to have a positive impact on the client-contractor relationship. By way of illustration, alternative dispute resolution methods were praised by both theory and practice to enable a harmonious client-contractor relationship in the face of adversary.

Conflicts within the construction industry are shaped by their causes, interactions between parties, and the reaction of parties to the conflict at hand. Consequently, when managing conflicts, it is important to recognize these continuous escalating and de-escalating dynamics.

7.1. Further Research

There are several areas of interest that remain to be explored. As of yet the conclusions of the paper have been internally verified. As a result, further external verification would strengthen the conclusions presented in this paper. This can be overcome by taking additional projects with a different context into consideration. An additional benefit to evaluating more projects is that this may also reveal the impact the collaborative framework has had on the identified dynamics. By including projects with differing frameworks, one could assess how these impact conflict dynamics.

Furthermore, the current paper has focused upon the measures that can be taken and their impact upon the conflict dynamics. Consequently, the dynamics presented in the guideline do not include the underlying causes of the conflicts. By expanding the guideline to include the causation, new dynamics may come to light.

8. References

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