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How to lead and facilitate collaborative practice in temporary project organizations: A case-analysis of collaboration in the Norwegian construction industry

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## Preliminary Master Thesis Report

*How to lead and facilitate collaborative practice in temporary project organizations:  
A case-analysis of collaboration in the Norwegian construction industry*

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## 1.0 Introduction

Changes in the economy and an increased globalization, such as the emergence of international competition, an increasing number of small contractors and more frequent use of contract labor, have caused a fragmentation of the construction industry (Klemsdal, 2003; Wu, Greenwood & Steel, 2008; Xue, Shen & Ren, 2010). This has led to increased demands to develop new inter-organizational collaborative working processes (Xue et al., 2010). Successful coordination and collaboration can be challenging, as the construction industry has been characterized by uncertainty, suspicion and opportunistic attitudes for a long time (Wu et al., 2008, p.1). Other researchers argue that the industry is characterized by “strongly entrenched attitudes and loyalties that impede the process of change towards greater coordination and cooperation among project parties” (Cicmil & Marshall, 2005, p.524). This is no different in the Norwegian construction industry. Despite efforts to increase the focus on collaboration in the industry and introduce collaborative practices, recent studies show that there is still a high degree of mistrust and lack of collaboration between stakeholders, which often leads to conflicts and poor performance within the projects (Swärd, 2015). Consequently, the importance of creating high-quality relationships and a sustainable collaborative practice within the construction industry seems more critical than ever.

With this thesis, we wish to respond to the call for research on how the construction industry can facilitate for and motivate its workers for collaboration (Klemsdal, 2003). A recent study that evaluated the collaborative practice within the Norwegian construction industry suggests training in process management and conflict resolution as one approach (Swärd, 2015). This approach is supported by Cheng & Li (2001), who found that dedicating a facilitator to carry forward the collaboration and lead team building processes is a critical success factor in the initial phase of a construction project. Furthermore, Cicmil and Marshall (2005) state that “a number of authors have commented on the importance of introducing different research perspectives, and new ways of reasoning and practice in the management of construction projects” (p. 524). We accept this challenge, and propose that the Relational Coordination Theory can foster collaborative working in the construction industry. Coordination among partners is considered as integral to collaborative efforts (Gulati, Wohlgezogen & Zhelyazkov, 2012), and relational coordination is described as “a powerful driver of performance when

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work is interdependent, uncertain and time constrained” (Gittell, 2016).

Furthermore, Gulati et al. (2012) emphasizes organization design, communication, and process management as required skills when leading inter-organizational projects. Gittell and Logan (2015) propose that relationally designed leadership and supervisory roles support participants in understanding and bridging across differences, and thus supporting the development of relational coordination. By focusing on establishing shared goals, shared knowledge and mutual respect, as well as timely, accurate, frequent and problem-solving communication, relational coordination builds high-quality relationships. The result is better utilization of labor through improved productivity and job satisfaction (Gittell, 2002). The same key factors seems to be relevant in the construction industry, where individuals and relationships are found to be the core issue for achieving successful collaboration (Bresnen & Marshall, 2000). For example, researchers have identified trust (Swärd, 2016; Cheng, Li & Love, 2000), open communication (Cheng & Li, 2001) and willingness to collaborate along clear roles and responsibilities (Jacobsen & Choi, 2008) as important factors. Other researchers have found that relationship building and conflict resolution are critical success factors for collaboration (Wong & Cheung, 2005), as well as working towards reaching a shared understanding (Venselaar, Gruis, & Verhoeven, 2015). As result, we propose relational coordination theory as our theoretical and practical framework for this thesis.

### ***1.1. Research Objective and research question***

With this study, we hope to contribute to resolve the concurrent challenging situation within the construction industry in regards to mistrust, conflict, lack of collaboration and poor performance. We hypothesize that relationally designed leadership (as defined by relational coordination theory) may foster collaboration. Our aim is therefore to look at how process managers facilitate for collaborative practice and examine whether they contribute to the creation of high-quality relationships. We also seek to identify factors that enable successful collaboration within the construction industry and examine how they are related to relational coordination. We have not been able to find any research connecting relational coordination to temporary project organizations. With this study, we also respond to the call for advancing relational coordination research (Gittell, 2011) by applying the framework and testing it in temporary work groups in the

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construction industry. The projects within the construction industry are mostly based on temporary, inter-organizational project organizations, which give us an opportunity to study relational coordination within this context. Based on this the aim of our thesis will be to investigate the following research questions:

*How do process managers facilitate for successful collaborative practice in temporary work-groups within the construction industry?*

*What are the factors that contribute to successful collaborative practice and how are these related to relational coordination?*

## **2.0 Context**

The empirical context for this thesis is the Norwegian road construction industry. The industry consists of complex and challenging projects that require planning and design with the involvement of a large number of stakeholders. For each new construction project a temporary project organization is created, consisting of multiple organizations, such as the contracting entity, the contractor, subcontractors and advisors. The performance of a construction project depends on the effective coordination of interdependent tasks and contributions of these actors (Bygballe, Swärd & Vaagaasar, 2016, p.1480). Many of the workers have often not worked together before, represent different professional domains and are tasked with solving complex problems, while at the same time, their work is interdependent and characterized by time constraints to satisfy both budget requirements and agreed date of delivery. Mutual interdependence and mutual adjustment between the different actors are therefore vital for the construction projects to succeed. The temporary forms of collaboration in inter-organizational projects further increase the complexity and coordination challenges (Harty, 2005; Klemsdal, 2003).

Historically the construction industry has depended on procurement methods and contractual arrangements that have reinforced differences between the stakeholders (Bresnen & Marshall, 2000). In recent years, the industry has moved away from the traditional “arms-length” contracting and towards creating relationships based more upon cooperation and trust (Bresnen & Marshall, 2000). Collaborative working has been identified as one of the most important critical success factor for managing construction projects (Xue et al., 2010, p.196). The

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Norwegian Public Roads Administration (NPRA) has recognized this, and in 2010, they established a requirement to implement and execute a “collaborative practice” in all construction projects. The collaborative practice have since then been a part of all construction contracts. The aim is to improve the foundation for collaborative relationships in projects, creating trust between the stakeholders (client/contracting entity and contractor), establish goal oriented procedures and practices, and contribute to a common contractual understanding (Vegdirektoratet, 2016). However, research has found that there is a lack of consistency in how the collaborative practice is implemented and executed, resulting in a continuous level of conflict within in the industry (Swärd, 2015). Consequently, there is room for improvement. The management of the collaborative practice in NPRA will serve as the case for our research, and will be further elaborated in the case description.

### **3.0 Theoretical Background**

#### ***3.1 Coordination***

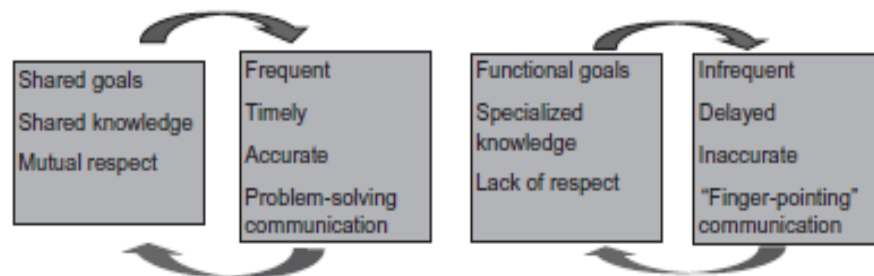
Coordination can be defined as the “temporally unfolding and contextualized process of input regulation and interaction articulation to realize a collective performance” (Faraj & Xiao, 2006, p. 1157). Following this, Okhuysen & Bechky (2009) describe how coordination is enabled when “the interdependence among parties, their responsibilities, and the progress on the task are all made visible through accountability” (p. 491). This relates to how coordination in inter-organizational settings, such as construction projects, are described as the ways partners synchronize, align, and adjust their actions to complete their interdependent tasks (Gulati et al., 2012). There is a range of interdisciplinary research on how to achieve successful coordinative action (Okhuysen & Bechky, 2009). This thesis builds on the dynamic approach of relational coordination theory, which is concerned with achieving coordination through the quality of the relationships in interdependent groups (Okhuysen & Bechky, 2009; Quinn & Dutton, 2005; Gittell, 2000). Relational coordination is measured by looking at how communication, shared goals, shared knowledge and mutual respect influence task performance. The theory will be further elaborated in the next section.

### 3.2 Relational Coordination

Relational Coordination is a theoretical framework for coordinating interdependent work processes within high-performance organizations, developed by Jody H. Gittell. Relational coordination stems from the Positive Organizational Scholarship (POS) tradition, which is a humanistic approach to the study of organizations, emphasizing the importance of subjectivity, intersubjectivity, and meaning at work (Cameron, Dutton, & Quinn, 2003). Relational coordination contribute to the POS tradition by uncovering the relational processes underlying technical processes, emphasizing that coordination is not solely about interdependence between tasks, but also interdependence between the task related roles (Gittell, 2011). Relational coordination builds on a large body of theory within coordination research, such as Thompson's work on mutual adjustment of interdependent tasks (1967), Van de Ven, Delbecq and Koenig's coordinating mechanisms (1976), Weick's concept of sense-making (1993) and Faraj & Xiao's concept of expertise coordination (2006). Gittell (2012) argues that relational coordination complements the coordination-literature, by offering a "unique way to conceptualize the relational dynamics of coordination" (p.16).

The ultimate aim of relational coordination is to create high quality relationships between roles related to work tasks. Such high quality relationships can both emerge and be reinforced through the dimensions of relational coordination. Through research on the airline industry and the healthcare sector, Gittell (2000) identified seven dimensions as crucial for high performance: shared goals, shared knowledge and mutual respect, which is supported by frequent, timely, accurate and problem-solving communication.

**Figure 2. Relational Coordination and contrasting dynamics**



The dimension of shared goals emphasizes the importance of shared goals exceeding the functional goal of the work group, meaning that interdependent work groups should focus on shared goals rather than functional goals to secure a joint effort. Shared knowledge is important in order to enable the employees to



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recognize their tasks in relations with those of their colleagues, as this will increase the understanding of the information flow; who needs to know what, and when? The dimension of mutual respect is crucial between employees, as the success of interdependent work processes are based on equal relations and respect for the work of others. When there is mutual respect, employees are more likely to listen and be receptive to their colleagues independent of status or role (Gittell, 2011).

The relationship between shared goals, shared knowledge, mutual respect on the one side and frequent, timely, accurate and a problem-solving communication on the other, is a reinforcing relationship (see Figure 2). Shared knowledge with colleagues and of their work enables the employee to communicate timely with colleagues as he or she would have an understanding of who needs to know what, at what time. This also enables accuracy of information sharing, as the employee knows his or her colleagues' work tasks (Gittell, 2011). According to Gittell (2011), shared goals will motivate employees to participate in "high quality communication" as well as pursue a problem solving approach rather than a "blaming approach" when problems occur; the success of others will benefit the larger whole. Mutual respect is found to increase the quality of communication, as employees will be more "receptive to communication from their colleagues in other functions, irrespective of their relative status" (Gittell, 2011, p. 401). Gittell (2002) thereby define relational coordination as "a mutually reinforcing process of interaction between communication and relationships carried out for the purpose of task integration" (p. 301).

### *3.2.1 Organizational Structures*

In terms of organizational structures, Gittell (2015) argues that the "traditional bureaucratic way" of organizing, with a focus on vertical control rather than horizontal coordination, limits high performance. The research context of the airline industry showed that the bureaucratic form of organizing caused employees to work in silos and thereby generating an inability to deal efficiently with ad hoc uncertainties and changes. Gittell, Seidner & Wimbush (2010) identified an alternative model to the bureaucratic way of organizing; namely "the relational model of high performing work systems (Gittell et al., 2010; Gittell 2015). The relational model of high performing systems is based on structures of shared goals and rewards, an emphasis on conflict resolution, shared information,

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and adjusted job characteristics. For companies with vertical structures, the focus should be to “counterbalance the vertical structures that create silos with forms of accountability that allow and encourage co-workers to coordinate directly with each other” (Gittell, 2015, p. 389). Organizational structures such as these will develop employees’ awareness and understanding for the context and their contributions to the work process as a whole.

### *3.2.2 The Relational Model of Change*

To achieve relational coordination within an organization Gittell (2016) propose the “Relational Model of Change”. This model is based on three modes of interventions: relational, work process and structural. Relational interventions are directed towards the employee, and how the employee views his or her role within the organization. This entails identifying shared goals and creating shared knowledge, which results in the employees’ increased respect for “one another’s roles, supporting more frequent, timely, accurate and problem-solving communication among themselves” (p. 92). In relational interventions, employees can develop shared knowledge with colleagues, as well as mutual respect and a problem-solving communication - all of which will help them through the work process interventions. Work process interventions aim to help the employee to identify both the current and the desired state of their work design. These work process interventions help employees to experiment on how they should work to reach the desired state. Structural interventions aim to redesign and adjust the existing organizational structures in order to support the result of the relational- and work process interventions. Such interventions can for example be aimed at accountability and rewards; this entails the “abolishment” of silo structure, the introduction of cross-department cooperation and the introduction of a shared reward system (Gittell, 2016).

A key point of the change model is that none of the interventions are sufficient on their own. In order to create sustainable change, all three interventions must be initiated. Following the model, relational interventions should be the first step. In order to maintain the change and effect of relational interventions, work process interventions are needed to “apply the new dynamics to work itself” (Gittell, 2016, p. 92). Lastly, the structural changes are needed to finalize the process; changes cannot be sustained “in the face of traditional structures that pull people back into their previous way of being” (Gittell, 2016, p.

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92). This is in line with research within the construction industry; Cicmil and Marshall (2005), argue that structural interventions (e.g. modifications in contractual forms) are “insufficient in dealing with the inherent paradox and complexity of construction projects” (p.525). Consequently, an increased focus on relational and work process interventions, with the support of structural interventions, may be appropriate in the construction industry.

### *3.2.3 Empirical Evidence for Relational Coordination*

The empirical evidence of the effect of relational coordination has increasingly developed throughout recent years. A review by Gittell & Logan (2015) found that relational coordination positively impacts efficiency and financial outcomes, quality and safety outcomes, client engagement, workers outcomes, and learning and innovation. For example, within health care shorter hospital stays, a higher number of patients examined, better clinical outcomes and higher patient satisfaction, has been found to be related to relational coordination. In terms of financial outcomes, relational coordination was found to reduce costs, consequently improving the competitive advantage in industries like healthcare, the pharmacy sector, manufacturing and banking (Gittell & Logan, 2015). In highly complex situations, relational coordination has proved to be positively related to quality and safety. Given the complexity of construction projects, we hypothesize that the same outcomes can be achieved when applying the theory to the construction industry. Lastly, relational coordination positively predicts innovation and learning. Gittell and Logan (2015) argue that based on their findings, relational coordination can be seen as “conducive” to learning and innovation. Much of the basis for innovation occurs across departments. It is common practice within the construction industry that the contracted advisors finalize the planning of a project before the contractor is hired (Tvedt & Persson, 2015). This means that the contractor is unable to contribute with specific knowledge. As a result, the contracting entity may miss the opportunity to e.g. increase the cost efficiency for the chosen solution. Consequently, the non-silo way of working which follows from relational coordination could enhance learning and innovation in the construction industry.

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### *3.2.4 Barriers for Relational Coordination*

In the process of implementing relational coordination, Gittell (2016) has identified five possible obstacles that need to be confronted. The first is workers who do not engage or collaborate with colleagues as it might “threaten their power or sense of identity” (Gittell, 2016, p. 11). The second is clients that do not engage or cooperate with workers as it require a more active role and a higher level of accountability. The third (leaders who do not motivate or support workers to engage in teamwork and do not engage themselves in team work with workers), and the fourth obstacle (change agents that do not engage in teamwork with peers), exist as the involvement with others might be perceived to threaten their power or sense of identity. Finally, and as previously discussed, the fifth obstacle is organizational structures that encourage employees to continue to work in silos, and reinforce these four mentioned obstacles (Gittell, 2016). Research has shown that characteristics of these barriers are present in the construction industry. For example, researchers argue that the industry is characterized by “strongly entrenched attitudes and loyalties” (Walker, 2002, cited in Ciemil & Marshall 2005). This means that when applying the theory of relational coordination within the construction industry one should appreciate and pay attention to these factors.

## **3.3 Leadership**

### *3.3.1 Task- and relations-oriented leadership behaviors*

There are almost as many definitions of leadership as there are leaders in organization. This thesis builds on Yukl’s work within the leadership-research. Yukl (2013) defines leadership as “the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared efforts” (p. 23). Researchers have identified different categories of leader behaviors such as: task-oriented, relation-oriented and change-oriented (e.g. Blake & Mouton, 1982; Yukl, 2006). These types of behaviors have differing objectives, but all have implications for organizational effectiveness; “task-oriented behaviors are most useful for improving efficiency, change-oriented behaviors are most useful for improving adaptation, and relations-oriented behaviors are most useful for improving human resources and relations” (Yukl, 2008, p. 711). With a backdrop

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of relational coordination, this thesis will have its main focus on task- and relations oriented leader behavior.

The goal of task-oriented behavior is mainly to coordinate and execute work in an efficient, productive and successful manner. This effort is in large intended to increase effectiveness, productivity and to reduce costs. Within relations-oriented behaviors however, the focus is on the human resources and the subsequent relations (Yukl, 2008). Yukl (2012) identified components of these behaviors that have proven to have a positive effect on organizational efficiency and leadership effectiveness. Within task-related behavior, planning, clarifying, monitoring and problem-solving have been highlighted. Whilst for relations-oriented behavior, supporting, developing, recognizing and empowering have been highlighted. Relating to the case of this thesis one can argue that all of these components are crucial behaviors for process managers who leads the collaborative practice. A well-planned and prepared collaborative practice, where objectives, prioritizations, assignment of roles and responsibilities and allocated resources will act as a stable platform for the future work processes. In this process, clarifying the context and expectations to create an understanding of work tasks, roles, expected results and time of delivery will ease the future collaboration within the project. Research has found that there often is a discrepancy between the agenda for the collaborative practice and what the actors have expressed interest in or find useful (Swärd, 2015). A task-oriented leadership could contribute with a proactive approach in terms of planning and clarifying both in advance of the collaborative practice, as well as during, to make sure all actors are aligned and contribute. Monitoring and problem-solving are both relevant for the collaborative practice as well as in the following project work. Yukl (2012) argue that a negative form of monitoring is intrusive, excessive, superficial and irrelevant. Swärd (2015) found that the NPRA often use the contract as basis for the collaborative practice with a focus on what they expect and how they can use the sanctions in the contract if the requirements are not met, rather than developing an inter-organizational method or framework for problem-solving.

Furthermore, one can argue that such behavior can “set the tone” for the project work. In inter-organizational collaboration, such as in the construction industry where the parties do not know each other from before, it has been found that the first impression often dominates the development of relations; this is due

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to the lack of previous experiences that one can base its impressions on (Serva, Fuller & Mayer, 2005). Consequently, the relations-oriented behavior of the process manager is crucial to improve the relations between the actors. Supporting includes listening and encouraging the actors, as well as encouraging cooperation, mutual trust and mediate conflicts between the members. Empirical evidence has shown that the collaborative practice is often a “one-way” street with little to none interaction between the parties (Swärd, 2015). One can therefore argue that the activity and interaction between the actors can be increased with a more supporting behavior of the process manager. Relations-oriented leaders also focus on developing the skills and confidence of the workers. This can increase the authority of the employee in their work role, which is an important factor within relational coordination and relational leadership. This thesis will elaborate on this topic at a later stage. Recognizing is an important component that is used to show appreciation for performance and contributions to the team or organization. Arguably, a high level of focus on the contract and its provisions combined with a certain tension might cause neglecting good work by either of the parties. It has been found that the recognition of others and this type of behavior increase worker performance (Yukl, 2012). Empowering subordinates means giving employees the authority and the opportunity to influence decisions in their own work. Consultation can function as an empowering decision; this means that the subordinates are consulted to give their view or ideas for possible solutions. Frequent consultation could both improve the quality of decisions in a project as well as increase the parties’ engagement (Yukl, 2012). Delegation is an even stronger empowerment decision, by “giving an individual or group the authority to make decisions formerly made by the leader” (Yukl, 2012, p. 72). However, this behavior will be ineffective if the empowerment of the subordinates does not have any real influence on the decisions made (Yukl, 2012).

Following the above section we argue that a balance between these two behaviors can positively affect the collaborative practice and create an environment that is open to sharing knowledge and information, create shared goals and increase the mutual respect between the parties.

### *3.3.3 Relational Leadership*

Facilitating for or supporting relational coordination requires “reciprocal relationships between workers and managers, in which managers learn from

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worker's deeper, more focused knowledge of the work, and workers learn from manager's broader contextual knowledge" (Gittell, 2016, p. 51). Gittell (2016) define relational leadership in terms of relational coordination as "a process of reciprocal interrelating between leaders and those they lead" (p.45). Leadership can be enacted in two ways: by exercising power or by exercising influence. Relational leadership is described as "creating influence in two ways; by developing shared goals, shared knowledge and mutual respect *with* others - and by developing shared goals, shared knowledge and mutual respect *among* others" (Gittell, 2016, p. 52).

Distributed leadership is a "leadership process(es) in an organization that involve multiple leaders with overlapping but different responsibilities" (Yukl 2008, p. 716). Similarly to distributed leadership, relational leadership encourage workers to be informal leaders in their work groups and leaders to make use of workers valuable knowledge and insight. However, in addition to this, relational leadership also "fosters the integration of their expertise and perspectives", giving the workers an insight into the larger whole that makes it easier for workers to "manage their interdependence" (Gittell 2016, p. 52). In the collaborative practice, the process manager should target such integration as this could help to increase engagement and create an environment for shared information and shared goals. Further, Douglass & Gittell (2012) relates relational leadership to "connective leadership"; which in large not only connect workers with their own work tasks, but also connect them with the tasks of their colleagues; which in turn could establish mutual goals.

Through several field studies, specifically in the airline industry, Gittell (2016) developed an understanding of how leadership should be executed in order to support and facilitate for relational coordination. Rather than a hands-off approach with little interaction between supervisors and workers, and an interaction characterized by directives, performance measurements, as well as no shared goals; feedback, coaching and close interaction is highlighted as the better alternative. In the example of Southwest Airlines, the supervisors had managerial authority and responsibilities; however, they were also involved in the work of their subordinates, taking a hands-on approach. In addition, they spent time giving feedback and coaching in a problem-solving manner: why did this happen, and how do we improve and fix it? Gittell (2016) sums up their leadership as not based on discipline but rather a hands-on supportive approach that is characterized

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by positive interactions. It has also been found that interdependent work can benefit from smaller spans of control as it leads to “more intimate and informal relationships between supervisors and frontline workers, establishing a context in which shared goals can be developed”, which in turn has a positive effect on performance (Gittell 2016, p. 49). Such close relationships or connections can in addition help the process of understanding or interpreting the outcome of a work process.

Recognition of the authority of each work role based on the knowledge connected to it has been highlighted within relational leadership. Gittell (2016) argue that “leaders have to rely on integration and self-control by workers rather than on external direction and control, with leaders and workers engaging together to determine the goals of the organization and how best to achieve them” (p. 52). This is based on the understanding that relational leadership can function as an alternative to hierarchy, where leadership is distributed and a widely distributed potential within the organization to solve problems on behalf of the organization, not only on the managerial level (Gittell, 2016). Based on the above argumentation we propose that a relational focus on leadership could positively influence the facilitation of the collaborative practice within the construction industry.

## **4.0 Methodology**

### ***4.1 Research design and methodology***

We base our research on a social constructionist perspective, meaning that we believe that individuals seek understanding of the world they live in and develop subjective meanings of their experiences (Creswell, 2003). Constructivists claim that truth is relative and that it is dependent on one’s perspective (Baxter & Jack, 2008). In our research we are interested in how the project participants subjectively view and experience the collaborative practice and how it is lead and facilitated by a process manager. Furthermore, we are interested in how their interactions, as well as their organizational context, influence the collaborative work in relation to the dimensions of relational coordination theory. This ontological approach builds on an interpretivist point of view, where the intent is to interpret the meanings others have of the world (Creswell, 2003).

Due to the nature of our research questions, we find the most appropriate research design to be an exploratory case study. This type of case study is used to



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explore those situations where the phenomenon or intervention explored has no clear, single set of outcomes (Baxter & Jack, 2008, p.548). Yin (2014) argues that case study research is especially suitable when “how” or “why” questions are asked about “a contemporary set of events over which the researcher has little or no control” (p.14). Furthermore case studies can give answers to “how” questions of phenomenon in social settings where there are no clear boundaries between the phenomenon and context (Yin, 2014). This applies to our project, as we are interested in exploring how process managers facilitate collaboration within temporary project groups, something that can not be explored without including the context of the Norwegian construction industry. We will conduct a single case study, and the case will be an ongoing construction project within the NPRA. This will be further elaborated in the case description.

#### ***4.2 Research strategy***

We propose to use a mixed method approach in our case study. This method is useful to capture the best of both qualitative and quantitative approaches when exploring a research question. Following the embedded design within mixed-method designs (Bryman & Bell, 2015), our priority will be qualitative research, but we will draw on quantitative survey research to enhance our findings. We choose this approach as embedded designs are found to be useful when qualitative (or quantitative) is insufficient for understanding all aspects of the phenomenon of interest (Bryman & Bell, 2015), and it enables us to get insight into different levels or units of analysis (Creswell, 2003).

Qualitative research methods are useful to investigate and describe the complexity of a phenomenon related to human processes or different issues (Bryman & Bell, 2015). Furthermore, it allows us to explore the “context within which decisions and actions take place” (Myers, 2013, p.5), i.e. the construction projects. Our qualitative research will be used to explore the participants’ subjective experiences and interpretations of the collaborative practice and how it is facilitated for and lead by a process manager. We intend to gather our qualitative data mainly through semi-structured qualitative interviews, observations and archival data (i.e. reports/notes from the collaborative practice) to capture the informants' experiences, thoughts and attitudes. We will analyze our data by taking an inductive approach, meaning that we will look for patterns in the data and try to develop a theory that could explain those patterns (Bryman & Bell,

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2015). There are several guidelines and criteria for establishing credibility, transferability, dependability, and confirmability of qualitative research (Baxter & Jack, 2008). We will follow Yin's (2014, p.45) recommendation of case study tactics to ensure construct validity (i.e. with the use of multiple sources of evidence), internal validity (e.g. pattern matching or explanation building), external validity (i.e. use established theories) and reliability (e.g. follow case study protocol). However, since the aim of exploratory research is to produce analytical rather than statistical generalizations (Yin, 2014), we will not attempt to generate a representative sample.

Our quantitative research will be used to measure the quality of the relationships, with the use of the Relational Coordination Survey developed by Jody H. Gittell. This allows us to gain information of the quality of relationships as defined within relational coordination theory, which can be difficult to obtain through the use of interviews or observations. Relational coordination is measured by surveying participants in a particular work process (i.e. a construction project) about their communication and relationships with other participants in that work process, and focus on functional roles rather than unique individuals (Gittell, 2012). The relational coordination survey requires researchers to identify a focal work process and the roles or functional groups that are involved in carrying out that focal work process (Gittell, 2012). As we have yet to confirm a construction project for our case study, the details of this will be defined once this is settled. The data will be statistically analyzed, for example Cronbach's alpha and factor analysis can be used to determine index validity, while a matrix diagram can be used to visualize patterns of relational coordination (i.e. weak or strong ties) between the functional groups (Gittell, 2012).

#### ***4.3 Case description: Collaborative practice in NPRA***

The aim of this thesis is to look at how collaboration and coordination can be facilitated and managed within the Norwegian construction industry. We believe that the NPRA is a suitable case organization for this purpose. The NPRA is state owned and is the contracting entity for over 50% of the contracts in the road construction industry in Norway (Halvorsen, 2015). Since its establishment in 2010, the collaborative practice has been part of all road construction contracts. The contract describes a model of the collaborative practice, including the topics, actions and objectives the process should cover. Furthermore, the contract

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requires that the first collaborative meeting is held before the construction work begins. This meeting enables the parties to collaboratively plan and agree on the details of the collaborative practice, such as when and how often the following collaborative meetings should be held during the contract period (Vegdirektoratet, 2016).

Despite the effort, the collaborative practice has yet to reach its full potential. Both Halvorsen (2015) and Swärd (2015) have uncovered deficiencies in the way the collaborative practice is executed. A lack of mutual understanding of the collaborative practice and its purpose, and hence, what the process requires, has led to a superficial and non-specific execution of the collaborative practice, making it difficult to follow up the collaboration over time (Halvorsen, 2015; Swärd, 2015). Furthermore, Swärd (2015) found that one recurring issue with the process managers leading the process were that they were viewed as too controlling. Instead of creating commitment and ownership to the process amongst the project participants, the process managers mainly informed about the principles of the collaborative practice. The action points established in the collaborative practice lacks anchoring in the larger group and are only partially followed up during a project (Swärd, 2015). Consequently, there is room for improvement in terms of the process manager's role in facilitating the collaborative practice.

Our case study project is yet to be confirmed. We are searching for an ongoing medium-sized construction project that has already completed the initial phase of the collaborative practice. Our study participants will consist of members from all parties involved in the project (e.g. NPRA, contractors, subcontractors), depending on how we define the focal work process.

#### ***4.4 Data gathering process***

The first step will be to conduct interviews with participants from our chosen case where the focus will be on their experiences of the collaborative practice and the management of that process. After the first round of interviews, we will conduct a relational coordination survey. This mapping of relational coordination will give us knowledge about the quality of the relationships between the participants in the construction project, whether the right people are communicating with each other, and to what extent they communicate through high quality communication. We expect that the survey questions will bring the participants' attention to topics and

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issues that they might not have paid attention to or been aware of beforehand. By “priming” them with the concepts and dimensions of relational coordination through the survey tool, we therefore argue that the tool itself can be seen as an intervention. After the survey has been completed and the results have been analyzed, we will conduct a workshop for the participants where we will discuss the results and how these can have implications for the collaborative practice. We expect that this will further enhance the “interventional” effect of the relational coordination survey. After approx. two months we will conduct a new round of interviews with the participants to see whether their awareness have led to better collaboration within the temporary work group.

**Figure 2. Data gathering process**



#### ***4.5 Ethical considerations***

Participation in the study is voluntary and all participants will be informed about the purpose of the study and asked to sign a consent form. The interviews will be audio recorded and deleted after they are transcribed. The transcriptions and results from the survey will remain within the departments of LOP and Strategy and will not be used for any other purposes than stated in the consent form.

## **5.0 Preliminary findings**

During the fall of 2016 we have conducted some initial observations and one interview. We attended a newly initiated process manager training in the NPRA, as well as an industry gathering for the Northern Region hosted by the NPRA. The participants in the process manager training were employees from the NPRA, whilst the participants in the industry gathering were representatives from the NPRA, advisors, contractors and sub-contractors.

### ***5.1 Structural vs. relational focus***

Through our observations it seems that the wider focus of the stakeholders is on the structural factors regarding the collaboration and execution of projects. There is little appreciation for the importance of the relational aspects of collaboration. A recurring topic throughout the process manager training and the industry

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gathering was issues surrounding the structural context of construction projects. Based on the rigidity of the governmental competition system, the structural challenges is argued to function as limitations to success; the participants did, almost without exceptions, turn to the contract and its structures when reasoning for why conflicts arise. The industry gathering confirmed many of our impressions from the process manager training, namely that the structural context has the main focus and is considered the main obstacle for collaboration. Further to this, we also conducted an interview with a contractor, which to some extent confirmed the perceived focus on structures. Our impression is that he viewed the collaborative practice as very positive, but that it had little effect as the contract and thereby the structural framework already had been set at the time of the collaborative practice.

### ***5.2 A lack of mutual understanding of the collaborative practice***

Arguably, the relational model of change has some similarities to the collaborative practice. This model is thought to be a forum where the actors meet, clarify roles and expectations and how they should handle and develop their work processes (Gittell, 2016). Previous research has shown that the collaborative practice is executed in different ways, many of which lack the focus on relational interventions as well as influence on work processes. Some of these practices are handled as pure information sessions run by the NPRA, with little to none openness to input and few discussions (Swärd, 2015). This was supported by our observations at both the process manager training and the industry gathering. It seems that process manager training did, to a large extent, only “scratch the surface” of what successful collaboration entails, and there was little effort to increase shared knowledge of what the collaborative practice really signifies for the actors involved in projects. As a result, one can argue that the lack of a shared understanding and an in depth knowledge of these concepts leave the participants with a very vague platform to execute the collaborative practice as process managers. Furthermore, the participants expressed concern about the fact that the collaborative practice does not have the same appreciative crowd in all regions. In addition to this, no template or blueprints for the collaborative practice were provided to the participants and it seemed that they felt that they were entrusted to themselves. Following this, many of the participants expressed a concern that they

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will meet challenges in terms of convincing the project participants of the importance and usefulness of this practice.

### ***5.3 A culture of mistrust***

It may seem that it exists a culture of mistrust and negative attitude within the NPRA towards the contractors and sub-contractors. During open discussions and group-exercises we observed a recurrence of negative comments towards the trustworthiness of contractors. Based on what we perceive as a negative culture, it may be difficult to establish shared goals as there is an inherent “us vs. them” thinking. Previous research has shown that the contractors and sub-contractors often perceive NPRA as controlling, and that the collaborative practice is regarded as yet another area for control (Swärd, 2015). Consequently, it is likely that such mistrust and control undermine the authority of the work roles and increase the level of control. This can lead to an environment where the workers’ engagement decline, and functional goals exceeds mutual goals. Hornstrup & Madsen (2015) argue that accurate information and shared knowledge is the key platform to create mutual goals, as well as the early involvement of the stakeholders. Building on the understanding of relational leadership, this should be the focal task of the process managers in the collaborative practice.

### ***5.4 Final remarks and future direction***

Our preliminary findings are largely in line with existing research on the collaborative practice. We have found that there is a detrimental lack of focus on relational aspects of the collaborative practice and the coordination of tasks. Based on our preliminary findings, we believe that the process managers can play an important role in facilitating and improving the execution of the collaborative practice. Our literature review indicates that an enhanced focus of the process manager in terms of relational leadership and relations-oriented behavior could be beneficial for the collaborative practice. We aim to investigate further whether this holds true and explore if there is other factors related to how process managers facilitate for a successful collaborative practice in temporary work-groups within the construction industry.

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### 6.0 Plan for thesis progression 2017

	January	February	March	April	May	June	July	August
Research and expand theory	x	x						
Arrange interviews / survey / workshop / interviews /	x							
Data collection		x	x	x				
Transcription of interviews			x	x	x			
Analyze data			x	x	x			
Write up results					x			
Link findings to theory					x	x		
Hand in first draft						x		
Hand in second draft (?)							x	
Final edits								x
Hand in Master Thesis								x

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