Collaboration Exhaustion in Collaborative Frameworks

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Abstract

Collaboration – working together toward a common goal – is widely acknowledged as essential in managing project-based and temporary organizational settings, especially complex infrastructure projects. However, these projects utilizing innovative collaborative contracting frameworks demand higher levels of inter-organizational collaboration, as these models rely on collective decision-making and shared accountability to achieve desired outcomes. These contracting models and the resulting changes in collaboration practices disrupt coordination across contracting organizations. This paper examines how coordination issues challenge collaboration in temporary organizing projects under collaborative contracts. Drawing on empirical data from Australian water infrastructure projects delivered under NEC4 collaborative contracts, the study identifies recurrent coordination challenges arising during project execution. We show that collaboration can become counterproductive when coordination relies on excessive mutual adjustment in the absence of standardized templates and routines and system-embedded workflows. We conceptualize this condition as *collaboration overload*, in which the intensity and volume of coordination activities lead to collaboration exhaustion, disrupting rather than supporting collective action. The preliminary findings highlight how insufficiently structured coordination mechanisms slow decision-making, affect relational intent, and compromise project outcomes. This study contributes to the engineering project organization literature by advancing our understanding of inter-organizational coordination in collaborative project settings and by offering practical insights for managing coordination demands in infrastructure projects that adopt collaborative contracting frameworks.

Keywords: Collaboration; Coordination; Overload; Exhaustion; Collaborative Contracting frameworks

Research Problem Statement

Infrastructure projects adopting innovative *collaborative contracts* introduce disruptions in established routines (Stjerne et al., 2022). These contractual frameworks demand higher levels of interaction and collaboration between parties from the early stages, compared to traditional transactional contracts with a fixed-price approach (Clegg et al., 2020; Poirier et al., 2016). While the advantages of collaborative contracts are widely acknowledged (Bresnen et al., 2025), the effects of the disruptions they introduce on collaboration – working together towards a common goal – are often overlooked in the inter-organizational context (Vaagaasar et al., 2020). Although *'collaboration overload'* – excessive or unevenly distributed collaboration – was introduced to the collaboration literature (Cross et al., 2016), there is limited research on how this phenomenon can emerge under collaborative contracting frameworks and can lead to *'collaboration exhaustion.'* Collaboration exhaustion refers to a condition in which project actors' ability and willingness to collaborate are weakened by repeated, unresolved, and poorly structured coordination demands. It is related to, but distinct from, collaboration overload.

Coordination, as an essential requirement for collaboration, has long been a central concern in organization design, particularly in settings characterized by task interdependence (Eriksson et al., 2019). Thompson's classical accounts (1967) distinguish between different forms of interdependence, showing that coordination requirements intensify as tasks become more tightly coupled. While pooled interdependence can be addressed through standardization, sequential interdependence typically relies on planning and scheduling mechanisms. In contrast, reciprocal interdependence demands ongoing, real-time mutual adjustment among involved parties, substantially increasing coordination effort. In project-based and temporary organizational settings, especially under collaborative contracting

frameworks, where reciprocal interdependence is prevalent, these heightened coordination demands can place significant strain on collaborative arrangements.

Previous studies explored different approaches to managing these reciprocal interdependencies. Eriksson et al. (2019) suggested that organizations should coordinate their reciprocal workflows through self-organized or negotiated mutual adjustments depending on goal alignment using a range of practical governance tools: if the subgoals of actors are compatible, network management, incentives, and pricing systems should be used; otherwise, apart from network management, conflict resolution and authority system should be adopted to manage contentious reciprocal workflows. Focusing on the latter and resulting conflicts, some studies investigated the associated factors, such as pressure to come to an agreement (Baron, 2013), power differences (Zartman & Touval, 1985), complexity of the organization's task (Chiocchio et al., 2011), interdependence of the units (Lawrence & Lorsch, 1967), and culture and leadership styles (Crevani et al., 2010). However, while prior studies examine mechanisms for managing reciprocal interdependence, they give little attention to the unintended consequences of these practices in the context of temporary project organizing under collaborative contracting frameworks, particularly how they may escalate coordination effort and lead to collaboration overload.

Drawing on empirical data from water infrastructure projects employing collaborative contracts in Australia, this research aims to address the following question: *"How do coordination demands under collaborative contracts create collaboration overload and lead to collaboration exhaustion in temporary project organizations?"* By bridging the temporality of collaboration practices with their operational realities, this paper contributes to the literature on temporary organizing by addressing the nuances of collaboration in infrastructure projects adopting collaborative contracting and how these may lead to collaboration overload.

Research Methods and Approach

This study adopts a qualitative approach to explore collaborative practices in Australian water projects utilizing NEC4 collaborative contracts. The approach involves qualitative data collection through semi-structured interviews with 26 participants from a client (14 interviewees) and its contractors (12 interviewees) working together under collaborative framework agreements, contract analysis (over 1200 pages), and notes from seminars and workshops (31 days). NEC4 refers to a suite of collaborative, clearly written, and flexible contracts for built environment procurement, which is new to the Australian market. By focusing on the water infrastructure sector, which consistently employs NEC4 contracts, the research provides a focused lens to examine how inter-organizational collaboration is challenged in temporary organizing projects under innovative collaborative contracts. By adopting Type 3 research, as proposed by Geraldi and Söderlund (2018), this study aims to challenge conventional yet unproductive assumptions about the implementation of collaborative contracts for project organizing, offering pragmatic insights into addressing the complexities of inter-organizational collaborative practices across the client and its contractors in the water infrastructure sector.

Preliminary Findings

Based on an in-depth qualitative case study of Australian water infrastructure projects delivered under NEC4 collaborative contracts, the study identifies recurring challenges in managing reciprocal interdependencies during project execution. While collaborative contracts are intended to support collective problem-solving through frequent interaction and mutual adjustment, the findings show that collaboration often becomes operationally burdensome rather than enabling.

Specifically, collaboration overload emerges when coordination relies heavily on informal, continuous interactions without sufficient structuring through standard templates, predefined workflows, or system-embedded routines: *"An industry standard these days, if it's not written down on a piece of paper, you're not doing it."* (Interviewee 16). Project actors engage in excessive meetings, negotiations, and ad hoc adjustments to align tasks and decisions, increasing cognitive and coordination effort: *"That's taken about a year to resolve. It went backwards and forwards […] because there were different points of view of how to do it*" (Interviewee 10). These unstructured mutual adjustments slow decision-making, create ambiguity over roles and responsibilities, and generate frustration among participants, leading to collaboration exhaustion.

The findings further indicate that these challenges are amplified during transitions from traditional transactional contracting to innovative collaborative arrangements: *"We weren't in a good position to get the most benefit out of it. So, there was the negotiation of the contract that got the whole team to a position where a cost was agreed upon for the task order. There were a whole bunch of except for this, except for that, which people didn't really understand how the risk was being shifted between the parties"* (Interviewee 22). Where organizations lack the necessary competencies, shared values, and goal alignment required for collaborative contracting, reciprocal interdependencies become contentious: *"As soon as you go outside of what you already have, your liability changes […] as soon as something goes wrong, that's when they are starting to point fingers at each other"* (Interviewee 4). In such contexts, mutual adjustment practices intensify rather than resolve coordination problems, exacerbating collaboration overload within temporary project organizations.

Implications

The findings have important implications for research and practice in engineering project organization. First, they suggest that collaboration under collaborative contracts cannot be understood solely as a relational or behavioral achievement. Effective collaboration depends critically on how coordination is operationalized through systems, processes, and standardized mechanisms that structure reciprocal interdependencies in temporary organizations.

Second, the study highlights standardization as a complementary, rather than opposing, mechanism to collaboration. Contrary to the assumption that standardization constrains flexibility, the findings indicate that standard templates, scheduled workflows, and system-embedded coordination routines can reduce unnecessary interaction, mitigate collaboration exhaustion, and enable more focused and productive mutual adjustment. In this sense, standardization supports collaboration by channeling coordination effort toward value-adding activities. Having said that, in project environments, not all informal coordination activities can be standardized. Therefore, the paper explicitly discusses which interactions/coordination activities are appropriate for standardization; which interactions should remain flexible and situational, and the trade-off mechanism between coordination efficiency (through standardization) and adaptive capacity (through flexible mutual adjustment).

For practitioners, the implications point to the need for greater organizational readiness when adopting collaborative contracting frameworks. Transitioning to collaborative contracts without parallel investment in coordination capabilities, shared practices, and supporting infrastructures risks overwhelming project teams and undermining intended benefits. For scholars, the study extends coordination theory in project organizations by showing how excessive coordination demands can arise endogenously from collaboration practices

themselves, opening new avenues for examining the limits and unintended consequences of collaborative organizing in complex infrastructure projects.

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