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Pemsel, & Söderlund. (2020). *Who's got the time? Temporary organizing under temporal institutional complexity*, in

Braun & Lampel (ed). *Tensions and paradoxes in temporary organizing*, (p 127 – 150) .
Emerald. <https://doi.org/https://doi.org/10.1108/S0733-558X20200000067012>

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WHOSE TIME IS IT? TEMPORARY ORGANIZING UNDER TEMPORAL INSTITUTIONAL COMPLEXITY

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January 7, 2020

Abstract

This paper addresses the challenges associated with temporary organizing under conditions of institutional complexity. We draw on findings from an in-depth case study of a megaproject initiated to reshape healthcare in Sweden. At the center of this transformation was the construction of a new, “world-class” hospital to replace the former (historical and renowned) university hospital. We posit that organizing such projects is largely a matter of creating, responding to, and re-creating *temporal institutional complexity*. Thus, our study identifies four distinct response strategies – innovating, partial decoupling, avoiding, and surfing – on which project actors relied when dealing with the multiplicity of temporal institutional requirements. We propose a model for explaining how these strategies affected the temporal institutional complexity faced by the project. Our paper adds to the literature on temporary organizations by highlighting the nature and dynamics of temporal institutional complexity and by revealing how inter-institutional temporary organizations cope with such complexity.

INTRODUCTION

Large-scale temporary organizations – such as those used to establish a new multi-purpose national telecom system (Dille et al., 2018), a new and innovative university (Granqvist and Gustafsson, 2015), or a transportation system crossing national boundaries (Scott et al., 2012) – have become increasingly important in a variety of industrial sectors and geographical regions (see Flyvbjerg, 2018). These organizations can be viewed as “inter-institutional temporary organizations” whose explicit purpose is to arrange for collaboration that crosses institutional divides (Dille et al., 2011). Although large-scale temporary organizations have been shown to play a key role in driving not only innovation but also social and infrastructure development, they do present a number of severe challenges.

In recent years, institutional theory has identified several problems that arise when organizations face multiple and sometimes competing institutional requirements (Biesenthal et al., 2018; Lieftink et al., 2019; Scott et al., 2011; Tonga Uriarte et al., 2019) and has pointed to the need for a better understanding of the conditions underlying institutional complexity (Greenwood et al., 2012). For instance, empirical studies have indicated that many of the problems and challenges linked to large-scale temporary organizations reflecting contradictory institutional frameworks (Matinheikki et al., 2019; Miller and Lessard, 2000; Scott et al., 2012); in other words, actors face the often impossible task of obeying institutional dictates while simultaneously achieving successful collaboration with other actors who face different requirements. Understanding institutional complexity and organizational responses to such complexity is essential for any inter-institutional temporary organization because it must perform complex tasks while maintaining its institutional legitimacy among the diverse stakeholders and project actors involved.

Scholars have addressed “temporal institutional complexity” in terms of how actors shape, navigate, and respond to differences in timing norms (Dille et al., 2011; Dille and Söderlund, 2013; Dille et al., 2018; Granqvist and Gustafsson, 2016) and temporal conceptions (Zerubavel, 1981). This perspective seems especially relevant in the context of large-scale temporary organizations, whose mandate to meet a deadline renders swift responses to temporal institutional complexity a central concern. Such organizations also need ongoing support from a range of other organizations and actors located in different institutional environments, which creates the fundamental challenge of fulfilling a project’s scheduling requirements *and* the requirements linked to temporal institutional legitimacy in each participant’s local environment. Dealing with this challenge often results in temporal tensions and incompatibilities as project actors navigate among multiple (albeit largely interdependent) and sometimes conflicting ideas about when, how frequently, and in what order tasks should be done so as to maximize the project mission’s likelihood of success. It follows that these temporary organizations cross institutional divides and deliberately intermingle institutional requirements. Despite being temporary with a limited collaborative history and future (Lundin and Söderholm, 1995), such organizations are dynamic in the sense that they focus on an emergent and transitional task (Lindkvist et al., 1998).

Hence, this paper addresses the challenges pertaining to inter-institutional temporary organizations (Dille et al., 2018) as a paradigmatic case of managing and organizing under conditions of temporal institutional complexity. We focus on temporal institutional complexity because time and scheduling are distinguishing features of organizations that are strongly oriented toward deadlines (Lindkvist et al., 1998), exhibiting a progressive time-related dynamic (Lundin and Söderholm, 1995). To enhance our understanding of these circumstances, we address the following research questions: How do actors in inter-institutional temporary organizations respond

to temporal institutional complexity? What strategies do actors use for coping with temporal institutional complexity? How do these strategies affect the temporal institutional complexity faced by the inter-institutional temporary organization?

THEORETICAL BACKGROUND

Studies of institutional complexity focus on the prevalence and implications of incorporating multiple institutional requirements within and across organizations (Besharov and Smith, 2014). This research has demonstrated the need to address institutional complexity as a necessary condition for organizing (Smets and Jarzabkowski, 2013) as well as the close links between institutional complexity and the emergence and dynamics of organizations. In addition, studies have established the importance of temporal institutional complexity for understanding the dynamics of organizations – in particular, how and why organizations change (Granqvist and Gustafsson, 2016). This research emphasizes the time-related aspects of institutional requirements and “rules of the game”: when, how frequently, and in what order tasks should be done (Zerubavel, 1981). Thus, the challenges associated with temporal institutional complexity increase our awareness of how actors cope with differences in their respective interpretations of those rules.

In their everyday actions, organizational members shape and reshape a number of temporal structures – behavior that constitutes the temporal rhythms and forms of their ongoing practices (Orlikowski and Yates, 2002). Actors tend to develop particular temporal structures and mechanisms when adjusting to other actors, and they devise “pacing” mechanisms to ensure legitimacy among central stakeholders (Ancona and Waller, 2007). The forces of *isochronism*, whereby actors are guided by common timing norms and hold similar temporal conceptions, have

been identified as playing a decisive role in facilitating collaboration among actors within the same institutional environment (Dille and Söderlund, 2011; Perez-Nordtveit et al., 2008).

However, collaborations that cross such boundaries face challenges related to temporal synchronization and must therefore adjust their “clocks” to enable cross-sectoral collaboration (Clark, 1985; Dille and Söderlund, 2013). Furthermore, the task interdependencies typical of large-scale projects often result in “temporal schisms” and “temporal conflicts” often become an integral part that explains their rationale, yet may also inform us about many of their fundamental problems (Dille and Söderlund, 2011). Contributing to this emerging stream of research, Dille et al. (2018) focused on the significance of “temporal conditioning” in demonstrating how temporary organizations evolve to enable cross-sectoral collaboration. Raaijmakers et al. (2015) uncovered how actors follow schedules or delay compliance to manage institutional complexity, generally pointing out the importance of acknowledging the role of time to understand responses to institutional complexity. Granqvist and Gustafsson (2016), addressing temporality in institutional work, investigated how actors jointly construct shared beliefs about temporalities to accomplish change efforts, that is, how actors are using timing norms purposefully to navigate through different temporal ideas pertaining to speed, duration, timing, rhythms and time horizons (Zerubavel, 1981). Granqvist and Gustafsson (2016), illustrate, through their case study of the creation of a new university, the importance of aligning timing norms to accomplish synchronicity of project activities and the creation of windows of opportunities where actors make time for key issues to be handled.

As organizational phenomena, temporary organizations are often set up explicitly to create institutional complexity, destabilize institutions, and initiate institutional change processes (Dille and Söderlund, 2011; Grabher and Thiel, 2014; Granqvist and Gustafsson, 2016; Holm, 1995). In

some cases, temporary organizations have been referred to as “inter-institutional temporary organizations” given their goal of arranging for collaboration that crosses institutional divides (Dille et al., 2018). Examples include large-scale projects launched to overcome national and/or sectoral boundaries or to achieve collaboration across professional and cultural domains (Corley et al., 2006; Dille and Söderlund, 2013; Dille et al., 2018) as well as “big science” projects assayed to integrate science and knowledge across disciplinary borders (Galison, 1997; Lenfle and Söderlund, 2019). Indeed, the *megaproject* – as a particular type of large-scale inter-institutional temporary organization – is an exemplar of institutional complexity in that such projects are often undertaken with the aim of activating institutional complexity (Dille and Söderlund, 2011; Flyvbjerg, 2017; Merrow, 2011). Megaprojects involve a large number of stakeholders, which represent a variety of sectors and industries that have idiosyncratic conceptions about time and timing; as a result, there are often difficulties in establishing cooperation and coordination regimes to ensure successful project completion.

Inter-institutional temporary organizations – and especially those set up to implement large-scale public projects (Miller and Lessard, 2000) or infrastructural megaprojects (Flyvbjerg, 2017; Söderlund et al., 2017) – are not destined to become institutions in their own right (Kreiner, 1995). Rather, their purpose is to trigger institutional change (Holm, 1995) and/or to reconcile institutional requirements (Söderlund and Sydow, 2019). A natural consequence is the emergence of a highly contested arena that challenges project actors and, in the worst case, compromises the entire project’s rationale, action plan, and completion date (see e.g. Engwall, 2003; van den Ende and van Marrewijk, 2019). Such large-scale inter-institutional temporary organizations are characterized by temporal uncertainty and ambiguities in large part because time is constantly a major concern (Stjerne et al., 2019). For example, increasing complexity and time pressure usually

lead project actors and stakeholders to cope by rethinking their priorities and rescheduling activities (Tryggestad and Georg, 2011). Navigating among temporal contradictions can thus result in more active and dramatic organizational responses than what is normally observed in long-standing, relatively permanent organizations (Goodrick and Salanick, 1996; Oliver, 1991; Smets et al., 2012); examples of the former include creating “institutional exceptions” (Orr and Scott, 2008) and “surfing” on institutional prescriptions to benefit a preferred path for reaching some destination or achieving certain goals (Boutinot and Mangematin, 2013).

However, few scholars have examined how this process of temporal adaptation unfolds in organizations that are temporary by design, where there is considerable pressure to achieve joint collaboration in a highly interdependent task environment (Hærem et al., 2015) and where conventional response strategies may not be applicable (Dille et al., 2018). Hence, we are motivated to explore how such inter-institutional temporary organizations create and respond to temporal institutional complexity – as well as how various response strategies affect the temporal institutional complexity that the project must manage.

RESEARCH CONTEXT AND METHODOLOGY

This study focuses on a megaproject dedicated to constructing a new university hospital in Stockholm, the capital of Sweden. The idea of a new hospital was formally launched in the early 2000s; the proposed New Karolinska Solna (NKS) University Hospital was intended to replace the old Karolinska Hospital, which for decades had been a renowned center for research and education in the medical sciences. However, the NKS project was much more than a new building; it was a completely new healthcare and research organization that was central to policy makers’ vision of future healthcare. Far from an ordinary project, it was a “once in a lifetime” undertaking

that would define “not only the future of hospital construction but also the future of healthcare services and the organization of those services” (internal document). Moreover, this project was the largest private–public partnership (PPP) healthcare initiative in the world at the time of its inception, with a budget of 52 billion SEK or about USD 8 billion. Figure 1 presents the organizations involved in the project and shows how they were related.

INSERT Figure 1 about Here

This was the first PPP project in Sweden’s healthcare sector and was also one of the first large-scale PPP initiatives in Sweden. We therefore expected that it would: (1) amount to a multi-institutional setting with possibly diverging goals, cultures, and interests; (2) involve partners with limited knowledge of and experience in working with PPP initiatives; and (3) be a highly contested arena with elevated levels of institutional complexity and of the potential for conflict. The third of these expectations reflected the ambitious vision of both the construction industry and the healthcare sector. Hence, we anticipated that this project would offer an ideal empirical setting in which to explore how organizational actors under time pressure and temporary conditions deal with new and unfamiliar institutional requirements. The motive underlying our case selection and research design was to provide an in-depth and credible empirical account (Siggelkow, 2007) of the NKS project that would offer theoretical openings and raise issues not previously addressed in the literature (Dyer and Wilkins, 1991).

Data collection

We followed Smets and Jarzabkowski’s (2013) advice to capture the “lived experience” of organizational actors’ acting and interacting, especially in the performance of their everyday work. To avoid ex post rationalizations of the process, we engaged in real-time data collection at several different project stages. Data collection, which mainly proceeded in an inductive and exploratory

manner (Siggelkow, 2007), began in 2012 and continued with several rounds of interviews between 2013 and 2018. We carried out approximately one round of interviews (each round included as many as three interviews) per month during the first phase of our data collection. In these interviews we asked questions about what happened in the project during the previous month, what is currently happening, and what will happen in the project during the next month. We attempted to reconstruct individuals' sensemaking with regard to their expectations versus their actual experience as well as to their response when encountering the project's conflicting requirements.

Data collection incorporated documents and interviews so that the information we gathered would be as varied as possible. The documents added nuance to our interviews and also identified areas that those interviews should address. The interviewees were selected so as to include a range of stakeholders and to cover many parallel processes during the project's main phases. The findings reported here are based on 40 interviews with politicians, county administrators, managers in the participating organizations (managing directors, program managers, project managers), and people working in the project (consultants, designers, experts, medical professionals) as well as in the hospital (medical professionals, managers, administrators). Each interview lasted between one and two hours, with the average interview lasting or about 90 minutes. Besides formal interviews, we engaged in many informal conversations – during several stages of the project – with such key actors as architects, project managers, project directors, and other significant stakeholders. These informal conversations occurred regularly between 2015 and 2018 and gave us a good sense of how the project, at various phases of its development, emerged and addressed its challenges.

Data analysis

When analyzing the data we adopted an inductive, “grounded theory” approach, performing our analysis throughout the data collection phase (Glaser and Strauss, 1967). This process involved thoroughly examining the project’s emergence and its challenges, for which purpose we carefully read and re-read our field notes, collected documents, and transcribed interviews. We then produced a detailed case summary encompassing major events, activities, actors and their challenges, and short descriptions of emerging themes toward the end of developing an overall and in-depth understanding of the case. Several patterns of how actors responded to multiple timing norms – that is, to the problems that arose when timing norms did not align – emerged during this phase of the study.

Our coding was conducted in an iterative manner via the three processes of open, axial, and selective coding (Glaser and Strauss, 1967). The first round of coding followed an open coding procedure and categorization process. At this *first* level of abstraction from the data, we focused on different types of activities and actions that actors initiated to cope with multiple timing norms (see Figure 2). We searched the empirical material for events during which actors faced challenging situations where the usefulness of their practices, norms, assumptions, conceptions, and routines were at stake – that is, challenged by the different approaches of other actors. Interviewees often expressed surprise, anger, joy, confusion, and frustration when describing these situations; they typically expressed concerns about things moving too slowly, in the wrong sequence, and at the wrong time or frequency. We focused on such “actor reflective” events in our transcripts because information about individuals’ interpretations of actions is crucial for understanding whether they consciously considered alternatives along with their associated pros and cons (Barley and Tolbert, 1997). We iteratively coded these response activities in view of the

emerging structure and then cross-checked coded sections to ensure internal consistency (cf. Miles and Huberman, 1994). Next we aggregated similar types of activities into second-order themes such as “re-pacing the project process” and “lobbying for favored temporal ideas”. These activities are presented in the left column of Figure 2.

INSERT Figure 2 about Here

At the *second* level of abstraction, for which we used axial coding (Glaser and Strauss, 1967), the second-order themes were grouped into aggregate dimensions (Gioia and Thomas, 1996) reflecting types of “response strategies” to temporal institutional complexity. Our interpretations and discussions of these themes allowed us to identify eight types of temporal institutional “response work” – a particular kind of temporal institutional work whose purpose is to cope with the challenges associated with temporal institutional complexity: constructing new temporal conceptions, shifting temporal conceptions, fostering new timing norms and temporal behaviors, combining temporal conceptions, separating temporal conceptions, controlling temporal conceptions, terminating temporal conceptions, creating temporal opportunities, and accepting temporal situations. Thus, actors constructed radical solutions, shifted processes, and fostered new norms when current ideas and solutions were insufficient to solve the problems they encountered.

The procedure just described was followed by another round of coding, the “selective” coding process (Strauss and Corbin, 1994), which amounted to a *third* level of abstraction from the data. We clustered the themes of this institutional response work into four types of response strategies: innovating, partial decoupling, avoiding, and surfing (for empirical illustrations, see Tables 1–4). In this coding process, we identified how these response strategies were related to existing literature so that we could better understand and contrast the emergent findings. During

this phase of the study we also began to compare our research with prior work vis-à-vis making sense of response strategies and the institutional work associated with temporal institutional complexity.

Finally, we continued to seek matches between our data-based coding and the patterns exhibited by the identified response strategies. We carefully elaborated the interplay among these four strategies, the underlying institutional response work, and the circumstances in which they become manifest. Through an iterative analysis making use of readings on response strategies, we found that response strategies were separable along two key dimensions: (i) actors' perceptions of how critical a particular timing norm is for project success; and (ii) their willingness to adopt a different timing norm. These patterns led to additional inductively derived distinctions among the strategies (see Figure 3 under "Synthesizing the four response strategies" to follow).

FINDINGS

Detailed analysis of our data revealed how actors engaged in a variety of temporal institutional work activities – in particular, how they created and responded to temporal institutional complexity in their efforts to ensure project success while maintaining legitimacy within their respective institutional domains. The outcome of this analysis is a model of temporal institutional response strategies (Figure 3). Our model's first component is the shared perception, among a group of actors, that transformation was necessary to improve the healthcare sector's quality and thereby offer more value to patients. Yet particular goals, and opinions regarding how best to achieve them, varied considerably among the participating actors. Thus, the project's normative temporal foundations were unsettled because the actors involved adhered to different temporal institutional requirements.

Our data analysis enabled the identification of eight types of temporal response work in which actors engaged to handle multiple timing norms; we then used data coding to cluster those response types into the four response *strategies* of innovating, partial decoupling, avoiding, and surfing. These distinct yet interrelated response strategies were used by project actors to construct shared beliefs about the healthcare transformation’s necessity – despite conflicts due to actors having not only different ideas about how best to proceed but also different goals (Besharov and Smith, 2014). Hence, it was necessary for key actors to remind participants, more or less continually, about the project’s overarching goals and future scenario. As mentioned previously, the four strategies were distinguished by two pre-conditions: actors’ perceptions of the importance of a particular timing norm (or norms) and their willingness to abandon previously favored timing norms. Actors adopted response strategies as a function of these dimensions and their interaction. In what follows, we elaborate the four response strategies.

Innovating

The innovating response strategy involved breaking free from current timing norms and creating something novel to explore a new path of action. This strategy was most evident in three forms of response work: constructing new temporal conceptions, shifting temporal conceptions, and fostering new timing norms and behaviors (see Table 1 for empirical illustrations). In some situations, the actors needed to depart from their established temporal ideas in order to innovate by thinking “outside the box”. Toward that end, actors encoded and created new artifacts, altered long-standing processes, and/or encouraged the development of new norms and values. This strategy often involved activities that made project actors see an alternative future – for instance, with respect to a new technology or to societal changes that could affect everyone in similar ways.

INSERT Table 1 about Here

Illustration 1

The project's technological innovations required a new "rhythm" in the design phase to cope with increasingly rapid technological development. In particular, development of a new digital platform changed the design work's temporal dynamic. The actors most affected were the architects, whose work was now controlled by digital platform managers who determined both how and when to design under this model. For example, these digital experts identified the need for novel timing norms and introduced – on a weekly basis – new work routines and integration points that shifted the rhythm of the design process. During this time, architects were not allowed to draw even though many team members needed to prepare some 500 drawings every week. The drawings had to be integrated in a certain manner prior to being reviewed and receiving a special label that signified they had been verified as being accurate and containing the correct metadata. This procedure, which typically unfolded on Thursday and Friday of each week, was considered to be peculiar and provocative by the architects, who were accustomed to making changes until the very last minute before delivery. Under this new setup, they no longer had that flexibility.

Another new task for the architects and construction managers involved comprehending the capacity and performance advantages of the digital platform and how it accelerated the overall process. This task required that actors adapted their individual timing norms to reflect the new circumstances. For instance, the new technology changed the work process at the construction site because printed drawings were replaced by digital solutions. This change accelerated the on-site management of drawings, the coordination of their updates, and surveys of the construction; hence, as explained by the head of CM, tasks could be completed far more efficiently than before. What took weeks to accomplish under the old system could be completed in minutes with the new one.

Partial decoupling

The response strategy of partial decoupling was associated with two primary forms of response work: separating and combining temporal conceptions (see Table 2 for empirical illustrations). In contrast to the innovating response strategy, here the actors were unwilling to abandon their “home” timing norms *in toto*. In such cases the actors wanted to retain some aspects of their own timing preferences, which resulted in various forms of partial decoupling in response to problems created by the existence of multiple timing norms. To some extent such decoupling resembles the response strategy of innovating, but this strategy is more involved with maintaining old behaviors and reducing the amount of change introduced into the project.

INSERT Table 2 about Here

Illustration 2

The separation induced by decoupling occurred at the interfaces of the public organizations and the private ones. Interviewees frequently emphasized that the NKS was an especially time-centric and high-pressure project, chiefly because it relied so much on the PPP contractual form. Time was viewed as the paramount constraint on the project, which required a certain pace and dynamic flow if on-time delivery was to be achieved. The penalties would be substantial if deadlines were not met, so a speedy decision-making process was required throughout the project. However, the public county council had a completely different pace and time focus, and its decision making was both bureaucratic and lengthy. When that process failed to deliver needed information on time, or when healthcare practitioners suggested changes in the physical construction, the CM head had to step in and specifically address certain timing norms among the actors involved. For example, meeting last-minute but legitimate requests – without delaying the project – required all parties to recognize that millions of SEK were at stake. Hence, it was sometimes simply not feasible to put

the project “on hold” while waiting for a formal decision from the politicians, for otherwise project delays could not be avoided. Therefore, management often took shortcuts that consisted of separating ideas temporally:

We continue to build on a suggested change, even though it is not formally signed, as it is a six-month political decision-making process on the public side. But we feel that we have informal “green lights” on some levels on the public side, so we just go, even though it is on risk.

The tensions between the two contrasting timing norms required the actors to develop creative responses that would preserve the project’s timing and overall schedule.

Avoiding

The avoiding response strategy was evident in two forms of response work: controlling and terminating temporal conceptions (see Table 3 for empirical illustrations). This response strategy is characterized by the intolerance for any logic based on a contradictory template. Avoidance is sometimes necessary if project processes are to move forward – rather than stagnating because of never-ending discussions and confrontations.

INSERT Table 3 about Here

Illustration 3

Perhaps the most clear-cut example of avoidance that we identified was related to implementing the new “theme-based healthcare” model while ensuring that the old model did not persist. The new healthcare model featured a greater focus on measuring time with clearly defined performance indicators, which in turn called for tighter collaboration across departments and units. In the old model, departments worked in a fairly autonomous fashion and seldom interacted with each other. Yet the new model required more cross-functional and cross-disciplinary collaboration, which led to conflicts over the temporal conceptions held by the various units:

“They [the management] sends out files with statistical information of how long waiting time it has been between surgeries, and ask why was the waiting time so long? According to our estimates it was too long ... They do not comprehend what healthcare means.” (Medical doctor interviewed on Swedish National Radio, April 30, 2018)

The medical professionals tried to avoid attending courses, trainings, and scenario exercises, and some even denied that they belonged to any of the work-stream groups designing the new hospital. However, hospital management remained assertive: they clearly signaled that staff could either adopt the new model (and its more rapid pace) or leave.

Surfing

The response strategy of surfing was tied to two forms of response work: creating temporal opportunities and accepting temporal situations (see Table 4 for empirical illustrations). Surfing is a response that occurs when one party exploits the timing norms of one or more other parties to gain certain advantages – that is, *without* changing their own timing norms.

INSERT Table 4 about Here

Illustration 4

As a response strategy, creating temporal opportunities involves actors lobbying for their own ideas or exploiting opportunities for their own future benefit; in other words, such opportunities are based on a future-oriented encoding of the present. One of the most prominent such lobbying efforts was the CM company’s many meetings with politicians in order to influence project outcomes in various ways – most often to speed up activities and to arrange them in a certain order. For example, the CM company influenced politicians for its own benefit (i.e., leading a successful project) by encouraging them to adopt a “project mindset”. Recall from the previous example that one factor threatening project success was the public sector’s slow decision-making process. So just as in the case of partial decoupling, construction management sometimes took the risk of

proceeding regardless; at other times, however, they lobbied (with some success) to shorten the decision-making process for the sake of this particular megaproject:

The county council director has an increased delegation for this project and is allowed to make decision[s] up to a certain amount of money, but above this amount the decision has to be escalated through the political process, that takes time. The political process does not fit the construction process. But at least he is empowered to make more decisions. Normally every project decision has to be escalated through the political process. That takes far too long. (Top manager, client organization)

The CM company's top management was often able to pull the right strings and thereby "orchestrate" the project's governance structures, thereby avoiding delays and smoothing the process for the benefit of this and other related projects.

Synthesizing the four response strategies

According to our analysis, actors adopted four different response strategies for dealing with temporal institutional complexity. Our subsequent summary of findings revealed evidence of actors alternating among these strategies depending on the situation at hand. With regard to the new software, for example, all of the response strategies were identified. The project staff first had to *decouple* themselves from previous timing norms so they could adapt the new software to suit their purposes. The *innovating* response was also needed to implement the new software, because that process involved fostering new temporal practices. Other strategic responses to the software initiative included *avoiding* the inclination to continue using old temporal conceptions in design practices – especially as regards pacing and sequencing – and finally *surfing* in the form of lobbying to accelerate the project's tempo. Thus, implementing innovative ideas requires that some actors dictate behaviors associated with innovation even as other actors await the right moment to approach their more powerful partners (see Table 5). We observe that actors used response

strategies creatively in an organic yet purposeful fashion as they sought to accommodate and influence timing norms. One is therefore led to ask: What factors affected actors' use of the particular response strategies we identified?

INSERT Table 5 about Here

The data suggest that the choice of response strategy is most strongly influenced by two factors: actors' perceptions of the importance of a timing norm for the project's success; and actors' willingness to *change* timing norm(s). Figure 3 illustrates how these two dimensions of agency interact dynamically in the institutional work of creating and re-creating institutional complexity (Smets and Jarzabkowski, 2013). Innovating responses are characteristic of actors who do not hesitate to abandon old timing norms in response to new circumstances. Partial decoupling characterizes the behavior of actors who value current timing norms yet are willing to change parts of them. Avoiding responses arise when actors are extremely reluctant to change their timing norm, in which they are heavily invested. Finally, surfing responses are typical of actors who are unwilling to change their timing norms despite attaching little importance to them.

INSERT Figure 3 about Here

Comparing the different response strategies exposes some notable differences that pertain to: the situations in which a strategy is most often used; what motives underlie the choice of a certain strategy; the role played by project staff's own timing norms; and the mechanisms typically required by the respective response strategies. The comparison is summarized in Table 5.

DISCUSSION

In this paper we develop a theory of temporary organizations operating under conditions of temporal institutional complexity. Large-scale and cross-sector temporary organizations, such as

the one studied here, are of particular interest for the study of temporal institutional complexity because they are *intended* to change and evolve (Lundin and Söderholm, 2011) as well as arrange for collaboration across sectoral and institutional borders. So, in light of task interdependencies and collaborative dynamics, the existence of such organizations relies to a great extent on coping with a high degree of temporal institutional complexity. As earlier research has illustrated, most such temporary organizations are confronted with institutional challenges that stem from contrasting institutional requirements and/or from stakeholders responding negatively to particular project initiatives (Dille and Söderlund, 2013; Scott et al., 2011; Sydow and Söderlund, 2019). Under these circumstances, it is difficult to ensure that stakeholders are informed about and in agreement with all project activities while concurrently advancing the project toward completion.

This observation has motivated scholars to analyze how actors overcome institutional differences and exceptions (Scott et al., 2011) and how they adapt to, avoid, or influence these institutional pressures (Holm, 1995). Inter-institutional temporary organizations feature high levels of task interdependence (Stinchcombe, 1985); it follows that institutional differences must be resolved before a project can get off the ground and realize its ambitions (Grabher and Thiel, 2014) – in this case study, of achieving institutional change. In that respect, inter-institutional temporary organizations face a number of unique challenges that cannot be adequately addressed by ordinary ways of establishing legitimacy (Engwall, 2003). Such organizations are pressured on a number of fronts, which makes legitimacy in multiple institutional fields a fundamental concern. Prior research has established that these organizations must develop a repertoire of response strategies for sorting out the institutional complexity involved along with the new tasks required (see e.g. Scott et al., 2012). Research has underscored the need to investigate different kinds of institutional complexity (Söderlund and Sydow, 2019), and especially temporal institutional

complexity (Granqvist and Gustafsson, 2016), as well as to describe how organizing proceeds under conditions of temporal institutional complexity. The success of these organizations depends on simultaneously fulfilling task-related requirements, implementing efficiencies with regard to operational task requirements, and respecting the diverse set of time-related institutional requirements observed by the actors involved.

In the NKS case, actors who attempted to resolve their temporal differences were pressured on two sides. On the one hand, they had to continue representing their home organizations' requests for legitimacy; on the other hand, they also had to honor the project's mission, which required some decoupling from the home organization's temporal requirements. As an empirical setting, then, the large-scale inter-institutional temporary organization amounts to a unique microcosm of dynamically evolving institutional differences, where institutional complexity is inescapable and thus a crucial challenge for management's pursuit of the project's goals and legitimacy.

As we observed in the case of NKS, large-scale projects are sometimes undertaken in response to temporal institutional complexity; moreover, such projects themselves practically guarantee that (more) temporal institutional complexity will arise. Thus, a megaproject may well uncover particular forms of temporal tensions (resulting, e.g., from actors' differing views on sequence or timing) that might otherwise have remained unacknowledged or even invisible. This dynamic highlights that temporal institutional complexity is more often constructed rather than given (Smets and Jarzabkowski, 2013) and that actors' engagement with such institutional complexity is an ongoing and fluid activity, not an episodic one (Voronov et al., 2013). In the specific context of inter-institutional *temporary* organizations, the implication is that an organization will – throughout its life – need to navigate between the extremes of promoting and

reducing temporal institutional complexity. This pattern is evident in our data (see Table 6, which summarizes how response strategies affected the extent of temporal institutional complexity faced by the temporary organization). We can see that the effect of some strategies was to increase the level of temporal institutional complexity, most often by making the project more ambitious than initially planned and/or adopting technical solutions that were unfamiliar to most of the actors involved. We observe also that some strategies resulted in outcomes that differed from their intended effects. For instance, activities undertaken to reduce institutional complexity sometimes instead resulted in an unchanged status quo or even in greater complexity.

In sum, we discern the following sequence of actions. The intention to *reduce* institutional complexity is followed by adopting one of four response strategies (innovating, partial decoupling, avoiding, or surfing), which in turn leads to one of three outcomes (reduced complexity, status quo, or increased complexity). Actions intended to *increase* institutional complexity, for instance because of new partners brought in from other sectors, might accordingly have the opposite effect, no effect, or the intended effect. Thus, the managerial responses adopted did not always influence the willingness of other actors to change the weight they assigned to their own timing norms. This dynamic is illustrated in Figure 4.

INSERT FIGURE 4 HERE

Theoretical implications

Given their high levels of task interdependence and extraordinary ambitions, temporary inter-institutional projects must be capable of responding to the challenges associated with institutional complexity – else few large-scale projects would ever come to fruition. However, the large scale and grand ambitions of many such projects lead to institutional complexity of a slightly different kind. Commonly used structural arrangements are seldom adequate for these organizations (Smets

and Jarzabkowski, 2013), and our study confirms that organizational actors must employ a repertoire of response strategies to drive the project forward. Yet this setting's complexity and uncertainty dictate that such engagement *not* be controlled by a rigid master plan; rather, response strategies should exhibit more of a trial-and-error nature.

These findings are related to previous research on the essential role of agency, creativity, and improvisation in actors' engagement with multiple institutional prescriptions (Dalpiaz et al., 2016; Emirbayer and Mische, 1998). Thus, our study contributes by answering the call to account for heterodox ways of responding to temporal institutional complexity; in so doing, it allows for "the possibility of *temporary* adjustments to the same institutional pressures" and also for "the possibility of *cycles* of organizational responses" (Greenwood et al., 2011, p. 351, emphasis added). Our research also shows that delaying responses to institutional complexity (Raaijmakers et al., 2015) may not be a viable option for temporary organizations working under strict deadline pressure (Lindkvist et al., 1998), which points to the unique setting that these organizations may constitute for enhancing our knowledge of how organizations cope with temporal institutional complexity.

The four response strategies identified in the NKS case should be widely applicable because it is probable that most organizations will similarly opt for innovating, partial decoupling, avoiding, and/or surfing responses. Our identification of these response strategies establishes that an organizational actor can navigate temporal institutional complexity in a variety of ways. Indeed, their existence entails that organizations must cultivate and master a range of response strategies to drive their projects forward and also that the effects of adopting particular response strategies will likely differ over time. If scholars were to consider the context of inter-institutional temporary organizations as a specific case of organizing under conditions of temporal institutional

complexity, then they would become more aware not only of actors' responses to contrasting timing norms but also of actors seeking to influence those norms. Adopting this perspective showcases the dynamic nature of temporal institutional complexity and makes it clear that temporal institutional complexity may change in response to actions taken by the focal temporary organizations – especially those of the NKS project's magnitude.

The project studied here is clearly an example of an organization established to trigger temporal institutional complexity as well as a mechanism for responding to temporal institutional complexity challenges. Accordingly, temporal institutional complexity is strongly associated with the underlying rationale of these organizations, or why they exist in the first place. Note also that the various strategies are all associated with the handling of contradictory timing norms. For that reason, a focus on temporal institutional complexity may yield an answer to the leading questions of why these organizations exist and how they evolve (Söderlund, 2004). Hence, further exploration of temporal institutional complexity (and of the various associated response strategies) could increase our understanding of such organizations' existence and dynamics and, thereby, of the transitions inherent to temporary organizations (Bakker, 2010; Lindkvist and Söderlund, 2002; Lundin and Söderholm, 1995).

Limitations

This paper's most severe limitation is our reliance on a single and fairly unique case, which means that our insights may not be entirely transferable to other empirical settings. Furthermore, the study was conducted in a specific national and professional setting: Sweden's healthcare sector. It is well known that healthcare comprises highly skilled and powerful professions and presents unique institutional challenges, factors that often do not apply in other industries and sectors. We remark also that the temporary organization we examined is unlike temporary organizations in other

settings – for instance, with respect to duration and task complexity (Haerem et al., 2015). Hence, future research should study and compare different kinds of inter-institutional temporary organizations (e.g., those in different sectors, geographical regions, and industries) to discern how response strategies differ across empirical settings. Studies along these lines might provide insights into how (and why) temporary organizations differ from one another.

Practical implications

The management of temporary organizations and large-scale projects has increasingly involved responding to as well as creating and re-creating institutional complexity (Orr and Scott, 2008). In organizations that span institutional domains, prerequisites to the successful organization and management of a project are an understanding of institutional requirements and the ability to identify which organizational measures are critical for the perceived legitimacy of a project's means and ends (DiMaggio and Powell, 1983). These challenges are daunting in multi-institutional collaborations because (a) the participating organizational actors typically have different views about appropriate objectives and how best to achieve them (Hoffmann et al., 2017) and (b) meeting the institutional requirements of one actor could end up delegitimizing actions preferred by other actors. This dynamic calls into question the suitability of a centralized management approach to resolving the inter-institutional tensions characteristic of such collaboration (Smets and Jarzabkowski, 2013) – an observation that applies “in spades” to megaprojects (Flyvbjerg, 2014) of the type analyzed here.

In short, it is necessary for the managers of inter-institutional temporary organizations to understand the nature and dynamics of temporal institutional complexity: how it arises and why organizations would want to introduce or increase that complexity. More specifically, managers need to know how they can affect the temporal institutional complexity their project faces.

Management must therefore develop a repertoire of response strategies so that the organization is adequately equipped to face the challenges posed by institutional complexity (Pache and Santos, 2010) – in particular, managers need to know not only how the organization affects and responds to the level of temporal institutional complexity but also whether it can achieve the intended effect(s) of adopting a particular temporal response strategy. Management can successfully address the challenges of temporal institutional complexity only after recognizing that it is not static and given but rather dynamic and created.

CONCLUSIONS

Our aim was to explore how actors devise and deploy responses to temporal institutional complexity in inter-institutional temporary organizations. That is, we examined how project actors dynamically navigated among – and responded to – multiple temporal norms and ideas of when, how frequently, and in what order projects tasks should be accomplished. At the outset we asked: How do actors in inter-institutional temporary organizations respond to temporal institutional complexity? What strategies can be discerned, and how do they affect the temporal institutional complexity facing such temporary organizations? The results of this study bear implications for our understanding of temporary organizations and of how different types of temporary organizations (here, inter-institutional temporary organizations) respond dynamically to the challenges associated with contrasting institutional requirements (here, incompatible timing norms).

This study contributes to the literature by providing an empirically grounded account of the dynamics of temporary organizations in settings of temporal institutional complexity. By identifying four categories of responses – innovating, partial decoupling, avoiding, and surfing –

and by demonstrating the effects of those strategies, we showed how the organizational actors involved in large-scale inter-institutional temporary organizations cope with high degrees of temporal institutional complexity.

More broadly, our paper relates to prior research by elaborating a rationale for the existence and behavior of temporary organizations (Söderlund, 2004). Thus, we call attention to these organizations as responses to and creators of temporal institutional complexity, and we propose that their behavior should be viewed in terms of four response strategies that target the organization's ongoing management of temporal institutional complexity. In that respect, a focus on temporal institutional complexity should help account for why temporary projects and organizations exist while explaining how they evolve and behave.

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