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Re-Creating Organizational Routines to Transition
Through the Project Life Cycle: A Case Study of the
Reconstruction of London’s Bank Underground Station

Abstract

This article provides new insights into the project life cycle by proposing an ‘alternative image’ to the predefined time boundary between life cycle stages. It makes a theoretical contribution by identifying how project organizations re-create patterns of action—organizational routines—as they transition across life cycle stages. It presents the findings of an autoethnographic empirical study and, through the lens of ‘routine dynamics,’ contributes to the project management literature by identifying a five-stage ‘process model of transitioning’ and the generative mechanisms involved in re-creating patterns of action.

Keywords

transition, organizational routines, project organizing, project life cycle

Introduction

The life cycle model has become a ubiquitous feature in the organization, governance, and management of projects. It represents the predefined ‘actions’ necessary to process information and transition a project organization through controlled stage gates that measure the performance of the organization in achieving its predefined goals (Cooper, 2008; Morris, 2013; Söderlund, 2012; Winch, 2010). In the United Kingdom’s Rethinking Project Management research Network, practitioners identified the growing complexity in all aspects of projects.
Set against this backdrop, the Network questioned the conceptual ‘representation’ of the project life cycle model as one that is only a partial view of reality. In doing so, they opened a call for further theorizing on the patterns of action among project participants as they move through the project life cycle (Winter et. al., 2006).

The concept of organizational routines (Feldman & Pentland, 2003; Nelson & Winter, 1982; Parmigiani & Howard-Grenville, 2011) has been adopted by project management scholars as being a useful theoretical construct to explore patterns of action in project organizations (Bresnan et al., 2005; Bygballe & Swärd, 2019; Davies et al., 2017; Eriksson, 2015; Samset & Volden, 2016; ). As highlighted in the call for papers for this edition, “transition-related project phenomena remain remarkably under-investigated.” Extant research has addressed decisions between the temporary and the permanent organization (Jacobsson et al., 2013), transitional rituals at stage boundaries (van den Ende & van Marrewijk, 2014), and handover to operations (Zerjav et al., 2018). What is lacking, however, is an understanding of ‘how’ project organizations accomplish the re-creation of these patterns of action—or routines—as they transition across an ex-ante defined life cycle stage boundary. We explore this in an empirical setting by seeking to answer the following research question: How are routines re-created through life cycle stage transitions in a project organization?

This article answers the research question by empirically examining the case study of a public urban infrastructure transport project, London’s Bank Station Capacity Upgrade project. It focuses on one specific transitional stage in the project life cycle, as the senior management team transitioned from the front-end definition stage to the execution stage. The first author of this article was the client’s project manager, which afforded the opportunity to undertake an autoethnographic study of transition. While traditional methods of interview or ethnographic observation provide some connection between the researcher and object of study, an
autoethnography offers the opportunity for the researcher to combine his or her personal experience with social-scientific analysis to provide a more in-depth understanding of how patterns of action are re-created (Jones et al., 2013, p. 22).

Infrastructure projects are large, uncertain, and complex endeavors involving the exchange of large amounts of information among multiple participants from both public and private organizations. Participants, such as designers and contractors, come together and disband at different stages of the project life cycle, and often where their activities at the end of one stage overlap with the next (Söderlund et al., 2017). Such projects therefore offer an interesting research site for exploring how patterns of action are re-created during life cycle stage transitions. We contribute to the project management literature by exploring life cycle transitions through the ‘practice’ perspective of organizational routines, more recently termed ‘routine dynamics’ (Feldman & Pentland, 2003; Feldman et al., 2016), showing how the dynamic nature of transitioning is accomplished. We do this by identifying the generative mechanisms involved in the recreation of patterns of action, which we suggest are formed from temporary breakdowns in performance and participants’ perceptions of information availability to meet the predefined time constraints of the project life cycle.

The article is structured as follows: The first part of the article sets out the theoretical framework by looking at the project life cycle model and the concept of transition before reviewing the practice perspective of organizational routines and the centrality of action. The methodology and methods are then explained before describing the case study. The findings are then presented through a first-person composite narrative, followed by a discussion on how the generative mechanisms contribute to the development of a five-stage process model of transitioning and our understanding of how patterns of action are re-created. The article closes with the limitations and opportunities for further research.
The Life Cycle Model, Transitions, and Organizational Routines

The following sections present the project life cycle as a predefined time-bound model, the concept of transition within this time-bound model, and organizational routines as a theoretical lens for exploring how patterns of action are re-created.

The Life Cycle Model

It is the life cycle that distinguishes the project organizational form from other forms of organization. While a project’s life cycle can take on a number of forms (e.g., Lindkvist et al., 1998), in construction, a governance structure that follows the traditional model is expected to be able to process information to reduce uncertainty and monitor the progression of work through what are termed stage gates (Winch, 2015). These stage-gate processes have become a common feature in the project management systems of large public infrastructure clients in the United Kingdom. It is at these stage gates where progress against predefined project or individual stage goals can be assessed before gaining approval (i.e., financial, technical, contractual) to proceed to the next stage (Cooper, 2008; Winch, 2010). This movement is often represented as sequential, yet Cooper (2008) is keen to emphasize that they are designed to support an iterative, dynamic, and often non-sequential process (p. 216), thus drawing attention to the concept of transition.

Yet as Winter et al. (2006, p. 641) and Pollack (2007, p. 271) highlight, the life cycle model fails to address the dynamic and emergent nature of action in projects. The literature on projects as temporary organizations offers a framework for exploring patterns of action. Bakker et al. (2016) discuss the project as an organizational form as being bound by timescales that are predefined and thus influence the nature of the patterns of action within the project life cycle (Lundin & Söderholm, 1995). Recognizing the different forms that temporary organizations may take, Bakker et al. (2016) propose an integrative view, focusing on ‘temporary organizing’
and the dynamic and emergent nature of projects. Such a view focuses on practices in temporary organizing and hence the resulting patterns and outcomes, which they suggest are relative to the ability of project actors to reflect on and adapt organizational routines (2016, p. 3).

Before looking at ‘routine dynamics’ as a lens for exploring patterns of action, we first look at the concept of transition within the temporary organizational form.

**Transitions in Temporary Organizations**

In this article, we conceptualize the stage-gate boundary among project life cycle stages as a ‘transition,’ with a particular focus on moving from the front-end definition stage into delivery. Transition itself is not a new concept. Transition has been used in the understanding of societal changes more generally (Abbott, 2003), the dynamics of group development (Gersick, 1988), and their role in megaprojects (van den Ende & van Marrewijk, 2014) from projects to operations (Zerjav et al., 2018). As work and society become more transient in nature (Lundin et al., 2015), there has been a reawakening of the concept of ‘liminality’ (Söderlund & Borg, 2017).

Transition is a basic concept in Lundin and Söderholm’s (1995) ‘theory of the temporary organization’ and centered on action. “Established as the driver for the transition (or change) achieved before the organization is terminated, action is arguably, in an inseparable way, intertwined with transition in the temporary organization. Whenever there is a transition, there is action involved” (Jacobsson et al., 2013, p. 577). Lundin and Söderholm (1995) offered two definitions of transition: (1) the distinctive 'before' and 'after' change related to the task at hand, and (2) perceptions of causal relationships among multiple participants. A review of recent studies on temporary organizations shows that the concept of transition has been neglected in the literature (Bakker, 2010). Jacobsson et. al. (2013) have challenged this omission and urged
scholars to rethink the centrality of action and choice in transitioning, proposing that ‘action’ is a natural outcome of the ‘choices’ made when transitioning through the life cycle.

In relation to stages within large infrastructure projects, which is the focus of this article, the literature has highlighted how the project organization develops organizational routines in their front-end development stage (Edkins et al., 2013; Eriksson, 2015; Morris & Hough, 1987; Samset & Volden, 2016). Other researchers suggested that routines are the building blocks of project capabilities (Davies & Brady, 2016) and inform organizational design (Eriksson & Kadefors, 2017). Miller and Hobbs (2005) highlighted the importance of the transition from the front end into execution:

> In most major projects, a time can be identified when most of, if not all, the pieces come into place, and when significant and irreversible commitments are made. This is typically the time when major contracts are signed and financing is secured. This point marks the end of the strategic structuring phase and the beginning of the design and execution phase. (p. 45)

Jones and Lichtenstein (2008) discuss the lack of success in achieving temporal and social embeddedness at this point in the life cycle, emphasizing that the transition from the front end into the delivery stage can be a source of major disruption. We therefore suggest in this article that this transition in the life cycle warrants further empirical study.

Returning to the work of Bakker et al., (2016) and the need to understand the practices involved in temporary organizing, the following section draws on ‘routine dynamics’ (Feldman et al., 2016) as a theoretical lens to further understand how patterns of action are re-created during life cycle transitions.
A Practice Perspective on Organizational Routines

Routines have been a central construct in organizational theory over the last 50 years and more (Becker, 2004; Cohen et al., 1996; Cyert & March, 1963; Nelson & Winter, 1982; Parmigiani & Howard-Grenville, 2011). The construct has been applied in the project management literature to understand the management and complexity of large projects (Eriksson, 2015; Stinchcombe & Heimer, 1985), learning across and between permanent and temporary organizations (Bresnan et al., 2005; Jacobsson et al., 2013), organizational capability in project-based organizations (Davies & Brady, 2016), and collaborative delivery models in construction projects (Bygballe & Swärd, 2019). However, their application to the life cycle model, and more specifically to transitions between stages, is limited.

The understanding of routines has moved from being stable and programmable (Cyert & March, 1963), to an evolutionary concept (Nelson & Winter, 1982) and more recently to a generative mechanism for explaining stability and change in organizations (Feldman & Pentland, 2003). This led routines scholars to identify what have been termed the ‘capability’ and ‘practice’ perspectives (Parmigiani & Howard-Grenville, 2011):

Organizational economists [capability] tend to treat routines as a “black box,” mainly interested in the purpose or motivation for routines and their impact on firm performance. Those trained in organization theory [practice] are more interested in the practice of routines: how they operate and how they are produced or changed as people enact them” (p. 414).

The role routines play in both stability and change is founded on Feldman’s (2000) notable work that changed the view that it was solely exogenous change that caused routines (and therefore organizations) to adapt. Feldman and Pentland (2003) then develop the understanding of the duality of the ‘ostensive’ (abstract) and ‘performative’ (performance) aspects of the
routine and the generative mechanisms that influence stability and change, and so the (re)creation of organizational routines over time. They arrived at a definition of routines as “repetitive, recognisable patterns of interdependent actions, carried out by multiple actors” (Feldman & Pentland, 2003, p. 95).

The practice perspective has been recently termed ‘routine dynamics.’ It builds on the contribution of the ostensive and performative aspects in acknowledging the processual nature of routines, that action in routines is situated and occurs over time. Actors are knowledgeable and reflective and stability in routine performance is something that must be accomplished (Feldman et al., 2016, p. 506). In this regard, routines can be understood as both effortful and emergent accomplishments, in that it takes effort to enact the same pattern in different places at different times and that “each time a routine is enacted is an occasion for variation” (Feldman et al., 2016, p. 508). The timing of actions in any given situation therefore becomes an important feature of the generative mechanisms involved in routine re-creation (Turner & Rindova, 2018).

Howard-Grenville (2005) built on the work of Feldman and Pentland (2003) with a sharper focus on agency and the temporal relationship between agents’ situated actions and routine performances. This phenomenon is prevalent in many project organizations with multiple participants joining and leaving projects at different times and their need to process and exchange information to achieve goals. As Feldman and Pentland (2003) observe:

> The involvement of multiple individuals inevitably introduces diversity in the information, interpretive schemes, and goals of the participants. The individuals performing the routine do not all have access to the same information, and even if they did, they might not interpret the information in the same way. (p. 104)
Much of this information is exchanged through verbal and nonverbal communication between routine participants (Dittrich et al., 2016; LeBaron et al., 2016) and through routine artifacts.

A number of studies in routine dynamics have emphasized the influence artifacts play in the performance of the routine itself or the organization as a whole (D’Adderio, 2010; Pentland & Feldman, 2008a) and how this reliance on static and deterministic artifacts to deliver the desired outputs from the routine can have both desirable and undesirable consequences (Pentland & Feldman, 2008a). Within temporary organizations, artifacts have been shown to play a key role through routines in the transformation of knowledge and learning (Cacciatori, 2008) where,

“product representations may be the key to explaining how routines can be sustained even in discontinuous project environments. In particular, objects holding memory of the product that also act as boundary objects across occupational or organizational groups, appear a critical point of junction between business and project processes, as they help firms carrying over both product and behaviour across projects. (p. 1599)

Feldman (2016) describes three key features of action in routines. First, action is constitutive, where what we do in organizations is as a result of the context of the organization and how it operates. Second, routines transcend dualisms, such as stability and change. Third, action is conceived as relational to emphasize connectors, connecting agents, and artifacts in the exchange of information, and the recreation of patterns of action as being both effortful and emergent accomplishments (Feldman, 2016, p. 37). This understanding of action affords a theoretical lens through which to explore how patterns of action are recreated as participants and artifacts transition through the project cycle.
Methods and Data

Following the practice perspective of routines, the research design is positioned within the interpretive paradigm (Burrell & Morgan, 1979). It broadly followed the guidance provided by Van de Ven (2007, p. 195) and drew on the practice turn in organizational theory (Schatzki, 2005; Schatzki et al., 2001;), which has been more recently applied to understanding projects (Blomquist et al., 2010), and so adopted a ‘practice epistemology’ (Sandberg & Tsoukas, 2011) for the collection and analysis of data.

Following Söderlund’s (2012) typologies of projects, the case of the London Underground Bank Station Capacity Upgrade can be identified as a large, interorganizational construction project (Davies et al., 2017; Miller & Lessard, 2001; Flyvbjerg, 2014) between public client infrastructure owners and private construction contractors. The project meets the criteria for the ‘how’ and ‘why’ question of single case study research (Eisenhardt & Graebner, 2007; Yin, 2014;).

A longitudinal autoethnographic inquiry (Anderson, 2006; Hayano, 1979) was undertaken by the first author, as the client project manager. While ethnography has been identified as a method to explore routine dynamics (Pentland & Feldman, 2008b) and construction project organizations (Pink et al., 2013), autoethnography allows for a closer relationship between personal experience and observed social phenomena (Jones et al., 2013). Autoethnography ranges across a spectrum from biographical stories (Ellis, 2004) to what Anderson terms ‘analytic’ autoethnography. Anderson (2006) explains that analytic autoethnography

refers to ethnographic work in which the researcher is (1) a full member in the research group or setting, (2) visible as such a member in the researcher’s published texts, and (3) committed to an analytic research agenda focused on improving theoretical understandings of broader social phenomena. (p. 375)
When undertaking an autoethnography, it is important to manage potential negative issues of power influence on study participants, particularly on participant behavior from observation. For this reason, the organizational boundary of the study was limited to the combined senior management team consisting of the client and the contractor, structured over three levels of management. This is shown in Figure 1, with the dotted line identifying the participant groups under study. The dyadic contract between the client and the contractor assigned specific obligations and risks between each party. This limited the power influence of the project manager/researcher on participants’ actions and decision making. The project manager/researcher reported into the project board, jointly led the G5 meeting and chaired the senior management team (SMT) meeting and was accountable for gaining approval to take the project into Stage 2.

Figure 1. Organizational boundary of data collection.
The senior management team was well known to the first author, as he had led the project for over three years prior to data collection commencing and had worked for the client organization for more than 10 years. The risk of going “native” with the group under study is a central challenge in autoethnography (Hayano, 1979) and while the autoethnographer must have enough knowledge of the group to be accepted as a member, it is not a question of going native or not, but rather a continuum between insider and outsider (1979, p. 100). Taking on the dual role of researcher and project manager created challenges in this study, as it meant straddling, or being a native in, both communities.

The main challenge lay in the different language used between the two disciplines of academia and project management. As project manager/researcher, the activities of collecting data and thinking about its relationship with theory was often in stark contrast to the activities of managing the project, a kind of “betwixt and between.” Bridging the gap between the representative nature of abstract models from the literature and the realities of the concrete performances and experiences is one of the most challenging tasks facing the autoethnographer. Such differences were mitigated over time through an ongoing dialogue between the researcher and participants during management meetings, interviews, and daily conversations. Both parties gradually developed a shared understanding of the relationship between theory and practice, as applied to the specific context of the project.

Participants had been informed of the planned research in advance and had an understanding of the dual role of the project manager/researcher in undertaking the autoethnography. All research participants were provided with information sheets on the research and co-signed confidentiality forms. Data collection took place over a 53-week period between July 2015 and June 2016. One hundred and twenty-seven (127) senior management meetings were recorded, totalling over 175 hours of audio recording. It was the data from these meetings that was used
as the source for identifying incidents. In addition to this core data, 75 interviews were held at three separate intervals during the study: Phase 1 pretransition, Phase 2 in transition, and Phase 3 post-transition. Phase 1 interviews were used to identify the routines to achieve transition goals and were semi-structured, whereas Phase 2 and Phase 3 interviews were unstructured and used to help identify the ongoing practices of the participants and supported the primary incident data from the management meetings. Interviews afforded the opportunity for the project manager/researcher and study participants to reflect on work practices and their outcomes in the process of transitioning.

This data was also supported by an organizational autoethnographic diary (OAD) used to record personal experiences and observations of the project manager/researcher in addition to the interviews and recordings. The diary was written up within 24 hours of observation, thus avoiding writing observations during the meetings. The diary produced over 175,000 words, averaging over 3,000 words a week.

The study followed Pentland and Feldman’s (2008b) advice on how to study routines using an “emic,” as opposed to an “etic” perspective, for the identification of the ostensive aspect of the routine. An etic perspective allows the researcher to make assessments independent of the participants, while “the emic perspective focuses on ways in which routines are defined and energized by the subjective understanding of the participants” (Pentland & Feldman, 2008b, p. 293).

Informed by Van de Ven’s (2007) understanding of process change, the study used the concept of transition (Lundin & Söderholm, 1995) to measure and analyze the stage boundary in the project. Van de Ven (2007) suggests that process studies should distinguish between incidents and events. In ethnography, Van Maanen (1979) makes a similar distinction between first-order (incidents) and second-order (events) concepts. The way to define an incident is through what
Van de Ven calls a qualitative datum, which requires a set of decision rules. The decision rules used in this study are presented later in this section. Due to the dispersed nature of action within routines and construction projects (Howard-Grenville & Rerup, 2017; Marshall & Bresnen, 2013) and the difficulties of identifying the boundaries of any one identified routine (Pentland & Feldman, 2008b), an additional stage was added to facilitate the move from first-order incidents to second-order “abstract” events. What we have called practical events were identified through the understanding that both projects and routines must have a purposeful goal; this is the task concept within a temporary organization (Lundin & Söderholm, 1995) and the normative goal in the guiding element of the ostensive aspect of the routine (Feldman & Pentland, 2003). Phase 1 interviews were used to identify the routines and their purposeful goal in relation to the transition. We identified one particular practical event within each routine that had to be completed to achieve a successful transition. Adding this stage into the measurement and analysis process helps to tighten the boundaries of the study of routines within such a large and dynamic case study.

To achieve the identification of this practical event and associated incidents, the study followed the work of Sandberg and Tsoukas (2011) by searching for the entwinement and temporary breakdowns in performance. They define entwinement as the logic of practice, “the primary mode of existence means that for something to be, it needs to show up as something—namely, as part of a meaningful relational totality with other beings” (Sandberg & Tsoukas, 2011, p. 343). Such an understanding is relevant to patterns of action being defined within the routines literature as being interdependent. In respect of breakdowns, they suggest that they “are treated as openings for accessing the significance of the internal workings of a practice” (Sandberg & Tsoukas, 2011, p. 347–348). A decision rule to search for routines, incidents, practical events, entwinement, and temporary breakdowns was therefore developed by blending together the
work of Van de Ven (2007), Pentland and Feldman (2008b), and Sandberg and Tsoukas (2011) as follows:

- Identify from an “emic perspective” the routines associated with achieving the formal approval of the project to transition through the stage gate;

- Identify the ‘goal or purpose’ of the organizational routine in ‘transition’;

- Identify a ‘practical event’ associated with the routine (i.e., activities to be completed by or in advance of the predefined transition date);

- The ‘practical event’ should exhibit a breakdown, either planned or unplanned, in routine performance that had to be resolved in advance of the formal transition;

- Represent ‘entwinement’ through a series of interdependent actions, by multiple participants;

- Identify incidents within practical events and over time; and

- Bracket incidents by their topic into specific groups, at specific times of the transition.

The process of analysis undertaken by the first author drew inspiration from the work of Locke et al. (2008). The autoethnographer entered into a recursive process of ‘doubt’ and ‘belief’ in reading and listening to the collected data, identifying the practical events, and tracing the associated incident data through the senior management meetings. Following the identification of incidents and practical events, the analysis followed Langley (1999) and used both ‘visual mapping’ and ‘temporal bracketing’ to construct ‘abstract’ events to identify the process model of change. This mapping was set against the predefined time boundary of the case studies’ life cycle stages and monthly business rhythm. These objective clock-time markers acted as the
base framework for this exercise, but this was also supported by the identification of ‘transition rituals’ in line with the work of van den Ende and van Marrewijk (2014) who suggest that:

transition rituals do things. They establish beginning and ending points, exhibit progress, mark and enable transitions, celebrate milestones and accomplishments, help legitimize a project, and communicate important messages to outsiders. In this sense, the ascribed meaning of a transition ritual signifies what needs to be changed, decided, established or communicated at a particular time and place within the construction process. (p. 1141)

In parallel with developing the abstract event sequence, it is necessary to move beyond simple surface descriptions to highlight specific situated actions and their influence on patterning of actions through the transition. So, to support developing the abstract event sequence, the study followed the work of Pentland (1999) and Jarzabkowski et al. (2014) to build a case study narrative that helps to “merge the characters and events from multiple ethnographic observations into a single composite narrative” (p. 281), which we present in the following section.

**The Case Study**

Transport infrastructure projects play a critical role in the development of the U.K. economy, with a planned investment of £78.5 billion in the years 2017–2018 to 2020–2021 (IPA, 2017). The Bank Station project, a major underground station capacity project for Transport for London (TfL), fell within this investment pipeline with a budget in excess of £600 million. TfL is the statutory public transport body within Greater London in the United Kingdom. The project was managed by the Capital Projects Directorate of London Underground (LU), a wholly owned subsidiary of TfL. From October 2011 to September 2016, the first author was the client’s project manager accountable for the delivery of this project.
The project commenced in 2003, going through a number of transformations, before gaining authority for contract award and the design and statutory planning of the project (Stage 1) by the TfL board in July 2013. Full authority for the construction (Stage 2) was granted in April 2016 following completion of detailed design and granting of statutory planning, through a Transport and Works Act Order (TWAO) application, by the Minister for the Department for Transport (DfT). The public inquiry for the TWAO was successfully completed in May 2015, and approval granted in December 2016. It is this transition from Stage 1 to Stage 2 that was the subject of this study.

The project was situated in the City of London, densely populated with offices and cultural buildings and within a Conservation Area. It interfaced with over sixty properties (containing over six hundred parties) that ranged from commercial office developments to 17th-century churches. The Bank underground station, first built in the 1890s, was a critical piece of infrastructure, but due to population growth, had become heavily congested and under capacity.

The primary purpose of the project was to relieve congestion within the station by creating additional capacity. The scope of work included the purchase and demolition of property, the construction of 600 meters of new rail tunnel; extensive reconfiguration of existing, and construction of new, underground passages; 12 new escalators; two new lifts; additional power supply, with associated cabling and mechanical equipment; new communications equipment, and a new station entrance.

The works were to be undertaken on two work sites above ground, and within the confines of the station below ground. There were extensive construction logistics on an already congested inner city road network. At Work Site 1, the project purchased six properties that were to be demolished and replaced by a new building, incorporating the new station entrance. In Stage 1, the project office was accommodated in one of these properties. In Stage 2, five of the six
properties were to be demolished with one retained as a project office, to be demolished at the end of the project. Work Site 2 occupied a road that was subject to full closure, the removal of public utilities, and the construction of a shaft from which all the tunnelling and excavation of material would take place. It incurred significant objection by surrounding stakeholders and originally planned to accommodate construction and design support staff.

In late 2010, the DfT wrote to TfL stating that the capital investment funding settlement for the project was subject to a completion no later than 2021. The emerging ‘concept design’ in 2011, while having an acceptable business case of approximately 2:1 (the government threshold being 1.5:1), exceeded TfL’s business plan budget, and the planned completion was projected to be late 2023. This led LU to explore opportunities to innovate in the way it procured design and construction services. It developed a novel procurement methodology that was entitled Innovative Contractor Engagement (ICE). A key feature of this procurement model was to support supply chain innovation through confidentiality agreements and the sharing of all available project information, thus reducing issues of information asymmetry. The resulting contract was structured in two stages (design – Stage 1, and build – Stage 2) and included a bespoke contract-break clause, entitled the Stage Two Works Commencement Notice (STWCN), that gave the client discretionary authority to instruct Stage 2, or not.

The project was led and managed by LU (the client), supported by external consultants, and responsible for managing stakeholders and gaining the TWAO. LU had a single contract with a main works contractor (contractor), accountable for both the design and construction of the works and who would be in contract with a supply chain of designers and works subcontractors. All parties were contracted in separate dyadic relationships and there were high degrees of interdependency between project participants. It should be noted that this was the first time for the client and contractor to work together.
The procurement model generated two key documents (artifacts) that governed the client/contractor relationship. The first was a relational-based contract, structured on the basis of completing the works within a target cost arrangement, where the client and the contractor would share the budgetary pain or gain. The contract shared the risk between the client and the contractor, where the client primarily took statutory planning, stakeholder, and financing risk, and the contractor took design liability and construction productivity risk. UK Law, client corporate governance and project governance were stipulated within this contract. It was within this contract that the bespoke STWCN break clause at the end of Stage 1 was included. The second document was a non-contractual alliance protocol, or what later became termed a management protocol. It established the shared values that the client and contractor team would follow in light of the uncertainties and interdependencies inherent in these types of projects.

By June of 2015 (start of data collection), the project was granted planning permission for the commercial development on Work Site 1, and the utility diversions, while challenging, were progressing on Work Site 2. It had gained approval for ‘concept design’ and progressed into detailed design. It had successfully avoided a protracted public inquiry for the TWAO, and in June 2015, it formally submitted the application. It had purchased four of the six properties on Work Site 1 through negotiation, and served a year’s notice for all tenants to leave by January 2016. The compulsory purchase of the final two properties would be subject to the granting of the TWAO. It had reached agreement with the stakeholders surrounding Work Site 2, but this had resulted in constraining the size of the site, and this impacted the plans for the operation and logistics of the construction works and the planned accommodation in Stage 2.

The client and contractor formed a strong and cohesive management team and worked collaboratively both horizontally and vertically across all contracted organizations. As a result,
the project continued to win industry awards for its procurement model and relational approach to managing the project.

Findings

In this section, I (the first author as project manager/researcher) describe how we as a senior management team managed the dynamic and changing environment as we sought to complete the preplanned activities in Stage 1 and gain TfL board approval to transition into Stage 2. It had become a feature since contract award (July 2013) for us to hold workshops to reflect and plan for the near future. Having submitted the TWAO and now well into detailed design, on 29 June 2015, I led a workshop with the senior management team to reflect on what we had achieved in Stage 1 and plan for the impending transition, specifically looking at our ability to achieve all the planned outputs by April 2016. At this workshop, we realized that the team was performing poorly. The focus on the public inquiry and submission of the TWAO had masked an underlying inertia and lack of communication between project participants that had perhaps been an undesired result of the management protocol. It was apparent that we were a long way from being ready for the transition into Stage 2. This breakdown in the performance of the team initiated a change in the project, specifically focusing on restructuring the organization and its planned actions to achieve approval for Stage 2, without disrupting the relationship built over the previous two years:

“I’ve noticed that, regardless of kind of moving apart a little bit, we’ve got some serious work to do within our own organizations as we transition through to construction. The need to remain extremely cohesive and collaborative through that is just critical, and the stability and capability of us as a senior management team to hold all that together is absolutely critical as we go through this. (Incident 6, WK 6, SMT, pp. 1–4)
Five predefined dates formed the time boundary for transitioning from Stage 1 to Stage 2. Two of these were ex-ante and defined within the contract. The most critical was 21 April 2016, the date set out in the contract for issuing the STWCN that defined the project’s time boundary between Stage 1 and Stage 2 and constrained by the requirement to achieve completion by 2021. Two dates were explicit in terms of planned tasks on the critical path, but were not predefined prior to contract award. The fifth date was created during Stage 1 as a result of legal agreements with stakeholders. The five dates are presented graphically in Figure 2:

![Figure 2. Transition milestones.](image)

I undertook the phase one interviews following this workshop, which, along with data collected during the workshop, were coded following the decision rule to identify the organizational routines, their goals, and the practical events where breakdowns had occurred. I then traced the incidents associated with the breakdowns in the practical events through the collected data to build the transition narrative and the process model of change. Table 1 presents a summary of the six routines, their practical events and associated breakdown/entwinement, their timing relative to the project’s critical path (created by the milestone dates), and the number of incidents identified within each routine.

The progress of activities was the subject of a period progress review meeting (every four weeks), where progress and breakdowns in performance were discussed. I led this period
progress meeting, a central feature of the project business rhythm, embedding it into the corporate governance structures of both client and contractor organizations. This business rhythm remained stable during the transition, although the structure, purpose, and attendees of the meetings changed in recognition of the departure of designers and arrival of the construction team.

Table 1. Routines and Their Practical Events

<table>
<thead>
<tr>
<th>Organizational Routine</th>
<th>Transition Goal</th>
<th>Practical Event and Incidents</th>
<th>Breakdown and Social Entwinement</th>
<th>Time and Timing</th>
<th>Incidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organizing routine</td>
<td>Reorganizing teams from design to construction</td>
<td>Revising the management protocol</td>
<td>Unplanned—Negotiating non-contractual change—Fear that Stage 1 values would not transfer to Stage 2</td>
<td>Not on critical path</td>
<td>53</td>
</tr>
<tr>
<td>2. Governing routine</td>
<td>Gaining formal approval to proceed from Stage 1 to Stage 2</td>
<td>Gaining formal client approval</td>
<td>No breakdown—Aligning contractor forecasts with client funding submission</td>
<td>On the critical path</td>
<td>41</td>
</tr>
<tr>
<td>3. Contracting routine</td>
<td>Obtaining the contractual instruction to proceed into Stage 2</td>
<td>Issuing Stage 2 works commencement notice</td>
<td>Planned—Instructing contract change—Fear that traditional industry behaviors would disrupt values</td>
<td>On the critical path</td>
<td>33</td>
</tr>
<tr>
<td>4. Designing routine</td>
<td>Achieving ‘design compliance’ prior to the start of Stage 2</td>
<td>Design compliance repackaging</td>
<td>Unplanned—Negotiating contract change—Commercial challenges could lead to organizational conflict</td>
<td>On the critical path</td>
<td>51</td>
</tr>
<tr>
<td>5. Constructing routine</td>
<td>Procuring the work packages for the establishment of the two main work sites</td>
<td>Preparing new accommodation strategy</td>
<td>Unplanned—Instructing contract change—Fear of loss of co-located workforce and schedule gains</td>
<td>On the critical path</td>
<td>31</td>
</tr>
<tr>
<td>6. Consenting routine</td>
<td>Obtaining statutory</td>
<td>Discharging statutory</td>
<td>Unplanned—Transferring knowledge—Construction team</td>
<td>On the critical path</td>
<td>69</td>
</tr>
</tbody>
</table>
The interpretation of the meaning of these milestones associated with activities and information search had a strong influence on the participants, as they were seen as part of the ongoing progression of the project, not simply as a fixed boundary delineating one stage from the next:

because I think projects, you know, they don’t suddenly go, ‘Boom,’ from design to build. What happens is ... especially if you look at this job, it happens quite progressively. So, even though we’re designing, we’ve got people working in the station, and doing surveys, and we’re doing some remedial works ... So, naturally, what happens is that people start getting ingrained in those working routines and processes as they go along, so to me, it doesn’t become a big step change. (I007, Interview 1, 28/07/2015, p. 5)

The two work sites were a critical spatial requirement for meeting the 21 April start date for Stage 2 and achieving the end date of July 2021. Both work sites were subject to stakeholder consultation, resulting in legal agreements that restricted their size and constrained the date of occupation. It soon became apparent that these spatial constraints could not accommodate all the staff as planned on either work site, which required the demolition of the sixth property on Work Site 1, a reduction in accommodation on Work Site 2, and the need for a new accommodation strategy to be planned and implemented prior to 21 April 2016. The consequential risk was held by the client. The remainder of the spatial elements of the project remained stable and there were no significant changes to the major stakeholders.

One of the main features of a ‘design and build’ model is the retention and continuity of knowledge across the two stages of design and construction. The workshop on 29 June
highlighted that these advantages had not been fully materialized, although the extent of this differed among participants.

*I’m less concerned, and I know you’re more concerned than I am, about the transition from design to construction, because I’ve got 30 years of experience of taking a construction team from one project to another project, where they’ve never seen it before. So, they’re actually hitting the ground, not understanding the asset, the deliverables, much at all when they hit the ground, and we deliver ... So the emerging uncertainty of us going into construction here is nothing compared to the emerging uncertainty of a conventionally procured contract. Again, using the time that we’ve got wisely. (I006, Interview 1, 27/07/2015, p. 8)*

Participants experienced high levels of uncertainty as the project moved from Stage 1 to Stage 2. They each experienced transitional experiences as they sought to transfer knowledge from those leaving the project (designers), to those joining the project (constructors). They talked of a move from a ‘conceptual’ stage to a ‘reality’ stage and were concerned that those joining would not fully appreciate what was required in terms of the knowledge and experience to manage the construction stage. The team recognized this disconnect and potential disruption between the two stages:

*I think we’ve got a major shift of outlook as we go from a very design-orientated structure, into then, a delivery structure where it’ll actually go out and physically provide the works ... if I could be critical, we probably, as [a] design organization, [have] not quite had a foot in the construction camp sufficiently enough ... So, therefore, that makes the step and the transition from design into construction a larger leap to take ... Factor into that the churn of staff that we’ll have going from design into construction, makes that quite a big change for us as a project as we*
have lived and breathed for two, three years, of design, now going into construction, over probably a six-month period ... that if not managed, it will probably have a detrimental effect in the performance capability of the project.

(I020, Interview 1, 08/08/2015, p. 3)

Personnel changes in the senior management team was a central feature of the transition. Although a few core team members remained in place, approximately two-thirds of the team changed their formal roles within the senior management team. Beyond this team included a wide range of internal stakeholders from both the client and contractor organizations. Within the client organization, the engineering oversight function, responsible for approving the design, influenced the progression of the detailed design when it had become apparent at the 29 June workshop that the design would not be completed by the key date of February 2016. This breakdown led to a change in the design compliance submission when one package was divided into five, and spread over time before and after the 21 April date. A new design strategy document was prepared to support this change:

...we need a mechanism whereby we say here’s the plan and everyone’s signed up to the plan albeit the details are going to come through later. So I still think we need a compliance strategy document that everyone signs off .... To show [external assurance review] in October/November you want to say there’s my list of all my deliverables I’m going to get ... It’s about us giving them confidence and saying of all these items, the twenty that’s left we don’t actually bother about because for our risk-based [design assurance] we’ve had the high-risk stuff early, so we’ve got a level of confidence now and that’s the message we need to be giving them.

(Incident 3, SMT, WK 2, pp. 18–33)
Stability was maintained during the transition by the client team’s effective management of a large number of external stakeholders. The contractor drew upon its wider in-house expertise and employees involved in related projects undertaken in the United Kingdom and abroad to became even more deeply involved in coordinating designers and construction subcontractors. While the significance of these additional participants was acknowledged in senior management meetings, they did not formally participate in this research.

In the early days of the contract, two main artifacts—the contract and management protocol—enabled the team to become structurally embedded in a shared situated practice that strongly informed the projects’ values and management protocol. At the workshop on 29 June 2015, the team found that the relationships and more specifically the boundaries between roles and responsibilities had become blurred and a sense of inertia began to inhibit progress and decision making. This caused us to separate into organizational units, so that we could focus on our individual contractual obligations. However, this also caused us to continue to espouse our shared values as the impending uncertainties threatened our ability to achieve activities on time. Hence, we saw the re-evaluation and adaptation of the management protocol as an emerging and necessary transition activity:

*I see behaviours that I’m really, you know, the whole client-contractor thing seems to be turning on, turning off ... we just press the button when it suits us ... I’m nervous about that going forward, and is that what we want? ... I think the reason you’re trying to share information is because I can’t do the job without information you’ve got and you can’t do the job without information I’ve got, and you know, when two parties contract together you’re never going to get away [from] that ... I think that’s part of the difficulty and the enjoyment of running an organization, is*
you’re always continuously trying to get that balance right. (Incident 35, G5, WK 34, pp. 5–14)

The formal contract between the parties required the production of artifacts (such as management plans and the design documents) and this continued through Stage 1 and into Stage 2. Most notable during the transition was the adaptation of existing artifacts and the emergence of new ones that were borne out of the uncertainties that emerged from the workshop on 29 June (such as the accommodation strategy, design compliance strategy, and management protocol). The preparation and approval of these artifacts influenced participants’ actions as they sought to replan activities and establish new activities through the search for information. As the milestone dates for transition approached, we recognized that information search had to come to a close and that we had to make judgments on how to move forward based on incomplete information.

I get a feeling that right now, you’re just not locking out your decision making, and that is putting pressure on [procurement], because she’s unable to procure some of this stuff, because we’re not locking down the decisions ... It’s a classic behavioural example at this point in the project; nobody wants to move forward until they’ve got complete information. The skill and the art is how do you move forward with incomplete information. You’ve got to make a judgment against that incomplete information ... (Incident 10, G5, WK 15, pp. 13–39).

This need to move on highlighted the interdependent nature of our actions and the level of ‘incompleteness’ in the search for information, particularly as the predefined time boundary approached. As I noted in my diary:

as we approach what could perhaps be called the apex of the transition ... more and more information seems to be coming to light and we seem to be
disaggregating our tasks into smaller and smaller chunks to deal with this emerging information. This made me think about the whole concept of ‘incomplete information’ or perhaps ‘necessarily incomplete information’ ... When we create these sequential [life cycle] stages, we assume that we arrive at a perfect level of information before we can transition, in reality that is never quite the case, in fact maybe it can never be the case, we always have to transition with incomplete information ... a stage is always ‘necessarily incomplete’... I guess the question is, what level of completeness is tolerable? Those that wait out for completeness will never get there and those that move too early will fall over in advance of getting there and have to start again. (OAD, Wednesday, 28 October – 16:44 – in the office)

We achieved approval from the TfL board to proceed into Stage 2 and issued the STWCN in time for 21 April 2016. Because this was a bespoke clause in the contract, we had developed a spreadsheet that monitored contractual compliance and identified ideal changes to adapt the contract. This new artifact was monitored and approved by the Bank board. In addition to this, the award of statutory planning in December 2015 gave the team a belief that we had now reached a point of greater certainty, affording them the confidence to make the necessary judgments against the incompleteness of information. I noted in my diary, it felt like the ‘actuality’ of the transition was temporally different to the preplanned movement between the two stages.

Friday 18th December (07:57 – sitting on the 40 [bus] ... this week has been a real week of ‘transition’ ... clearly getting the TWA was huge ... the Bank board was very commercial with no progress reporting and that made it feel very real ... it was the first that was so different from all the others and in that sense, marks the
transition for that meeting going forward, the fact that we also seemed to see some light at the end of the tunnel with all the commercial issues ... was a real step forward and set the tone for getting the Stage 2 commencement notice up and running in a timely [manner] ... I think it is always very difficult to define one particular turning point with respect to the transition ... So is there a single trigger, well yes and no, ... however, there is no doubt that getting the TWA was [a] big trigger, ... So much of our decision making is built around getting that and now having it in our hand says so much. (OAD, WK 25, pp. 132–135)

I observed in the phase three interviews (May/June 2016) that although formal transition to Stage 2 had taken place, there was a sense of ‘ongoingness’ in transitioning, and a sense of incompleteness leading to the adaptation of planned practices, triggered by temporary breakdowns.

In developing the narrative about the transition, I was able to refine the characteristics of the abstract events and realized that the two sequential stages of design and construction, represented in the project life cycle model, were not structured from a single bracket of the ex-ante fixed date of 21 April 2016. I understood that moving across the boundary and accomplishing the routines was an ongoing process of ‘bracketing’ practices. Five abstract event (AE) sequences across the six routines were identified, namely: (AE1) Realizing through enacting, (AE2) Informing and assuming, (AE3) Turning and preparing, (AE4) Formally validating, and (AE5) Enacting through realizing. These stages and key activities from each routine are presented in Table 2.

Table 2. Abstract Event Sequence and Activities for Each Routine
<table>
<thead>
<tr>
<th>Stages</th>
<th>Stage 1: Realizing through enacting</th>
<th>Stage 2: Informing and assuming</th>
<th>Stage 3: Turning and preparing</th>
<th>Stage 4: Formally validating</th>
<th>Stage 5: Enacting through realizing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weeks</td>
<td>1–6</td>
<td>6–22</td>
<td>22–36</td>
<td>36–42</td>
<td>42–53</td>
</tr>
<tr>
<td>Overall transition</td>
<td>The thwarting of expectations—realization of the need to change... espousing future vision</td>
<td>Searching for information, understanding constraints, and making assumptions as deadlines approach</td>
<td>Key events trigger a shift toward a ‘felt sense of transition,’ preparation of formal approval</td>
<td>Obtaining formal approval through formal governance procedures</td>
<td>Enacting the new practices and structures</td>
</tr>
<tr>
<td>Organizing routine</td>
<td>Awareness of breakdown and reorganization</td>
<td>External review and away days</td>
<td>Questioning relations; revising protocol</td>
<td>Approval, revised protocol, and organization structure</td>
<td>New organization structure implemented</td>
</tr>
<tr>
<td>Governing routine</td>
<td>Reorganizing for the PMO to manage the governance process</td>
<td>Collating evidence for external assurance review</td>
<td>Assurance reviews; drafting approval papers</td>
<td>Formal approval at TfL board</td>
<td>New practices to manage ongoing assurance review</td>
</tr>
<tr>
<td>Contracting routine</td>
<td>Lack of understanding of what the contract clause means for the project</td>
<td>Understanding milestone dates; collecting information to develop tracker</td>
<td>Formally issue tracker; providing evidence to project board</td>
<td>Issuing the STWCN</td>
<td>Tracker as a tool to continue to provide performance assurance</td>
</tr>
<tr>
<td>Designing routine</td>
<td>Delay to design; need to separate packages</td>
<td>Developing relationship between and construction schedule</td>
<td>Enacting new practices to close design; commence early construction</td>
<td>Delay to sign-off of the main design package</td>
<td>Mix of old practices and new; established operational coordination group</td>
</tr>
<tr>
<td>Constructing routine</td>
<td>Realizing need for revised strategy</td>
<td>Searching for information for option selection</td>
<td>Applying for consents; gaining Bank board approval</td>
<td>Formally instructing subcontractors</td>
<td>Event closes and new activities emerge</td>
</tr>
<tr>
<td>Consent ing routine</td>
<td>Restructure roles from consents to stakeholder management</td>
<td>Recognition consents important to the information search</td>
<td>Granting of TWA and need to fix statutory timescales</td>
<td>Granting of the plans that discharge conditions</td>
<td>Enacting the new routine through developing new artifacts</td>
</tr>
</tbody>
</table>

This process of bracketing practices to identify and develop the five abstract event sequences and their boundaries, while occurring sequentially, enabled me to identify the generative mechanisms involved in re-creating patterns of action and the processual nature of the model, which are discussed in the following section.

**Discussion and Conclusions**
This article makes three main contributions to the literature: (1) it contributes to project management research on the dynamic and emergent nature of the transition between project life cycle stages by identifying a five-stage *process model of transitioning*; (2) it draws attention to the concept of transition, highlighting three generative mechanisms involved in re-creating patterns of action across predefined time boundaries; (3) it offers a contribution to the routine dynamics literature and its use in project management research by shedding some light on the relationship between predefined time boundaries and available information.

The transition between project life cycle stages is often represented as two activity bars, either as finish-to-start or overlapping. We offer new insights into the project life cycle transition by proposing an ‘alternative image’ to the predefined time boundary between life cycle stages and contribute to the project management literature through the identification of a five-stage *process model of transitioning*, presented graphically in Figure 3. The research findings used to develop the model are based on the project actors’ need to re-create patterns of action to achieve the predefined time boundary. In stage one, the senior management team realized temporary breakdowns in enacting their relational practices and their expectations of achieving the predefined transition date are thwarted, causing them to espouse a desired future state and restructure part of the organization. This led to the second stage, when actors searched for new information and made assumptions informed by incomplete information in order to progress work on time and mitigate the breakdown. In stage three, there was a ‘felt’ sense of the transition turning, and so artifacts were adapted and finalized for approval. Stage four encompassed the activities required to gain formal approval for the project to proceed to the next stage. In stage five, purposefully enacting new practices caused temporary breakdowns, as participants’ actual performances differed from those envisaged by the senior management, and so the cycle starts to repeat itself.
In understanding temporary organizations as a ‘form’ (Bakker et al., 2016), the project life cycle represents time as linear by fixing a predefined date when the organization, or its stages, will be terminated (Lundin & Söderholm, 1995). Through the lens of routine dynamics (Feldman et al., 2016), our model contributes to this understanding by showing the more effortful and emergent nature of *transitioning* and the dynamic nature of temporary organizing (Bakker et al., 2016). It sheds light on how actions within a given time and context (Howard-Grenville, 2005), choices made between the temporary and the permanent organization (Jacobsson et al., 2013), preplanned or emergent time markers (van den Ende & van Marrewijk, 2014), the adaptation of artifacts (Caccatiori, 2008), and verbal and nonverbal communication (Dittrich et al., 2016; LeBaron et al., 2016) are used to create sufficient recognizability to re-create patterns of action as a result of temporary breakdowns in practices. The model contributes to further understanding how routines at the front end of projects (Eriksson, 2015; Samset & Volden, 2016) are re-created into the delivery stage to mitigate negative aspects of this project life cycle stage transition (Jones & Lichtenstein, 2008; Miller & Lessard, 2001).

By focusing on the concept of transition and Lundin and Söderholm’s (1995) definition of it in terms of the participants perceptions of the causal relations, our evidence shows how the recreation of patterns of action are influenced by three generative mechanisms, namely: 1)
breakdowns in planned performances leading to the incomplete search for information to achieve transition goals, 2) the influence of the predefined time boundary on this information search and the judgments made by participants, and 3) the dialogue between participants and the adaptation of artifacts to carry (new) information across the stage boundary. Lundin and Söderholm (1995) refer to the left and the right bracket, but they also talk of “bracketing” (p. 446). This study suggests that bracketing is an ongoing process occurring during the transition and has shown how the three generative mechanisms influence both stability and change in re-creating patterns of action (Feldman & Pentland, 2003) to create sufficient recognizability between the two life cycle stages.

Through the ex-post bracketing of incidents and events, the findings presented here enable us to see that a transition, represented as a predefined and fixed date between life cycle stages, is only a partial representation of how transitioning is experienced and performed. In line with other literature on transition (Abbott, 2003; Gersick, 1988; Söderlund and Borg, 2017), there came a time of alignment between the outcomes of actors’ performances that gave a felt sense of transition in advance of the preplanned time boundary. We suggest this interplay between a felt sense of transition and the predefined time boundary helps bridge the understanding between the conceptual representation of the project life cycle model and the actuality of transitioning through the life cycle.

We suggest that our study of routines on a temporary project organization (Baker et al., 2016) also contributes to the literature on routine dynamics, which is predominantly drawn from research on ongoing or permanent forms of organization (Feldman et al., 2016). The generative mechanisms we identified emerged from temporary breakdowns in practices (Sandberg & Tsoukas, 2011), which were triggered by the proximity to the predefined and fixed end date for the project life cycle stage. These breakdowns drew participants’ attention to the need to
perform new tasks and search for new information to mitigate these breakdowns. We highlight how the judgments made from the level of ‘incomplete’ information, particularly as the predefined time boundary approached, shaped the timing of actions and the ability of the organization to achieve the goals of the transition routines.

This conception of ‘necessarily incomplete,’ or what could perhaps be termed ‘sufficiently complete’ information, influenced how the timing of actions were enacted through both the adaptation of artifacts and participants’ dialogue of their shared values, past actions, and future intentions. We suggest this finding contributes to discussions in routine dynamics on the mutually constituted nature of performing and patterning (Feldman, 2016, p. 38) through information search and exchange by verbal and nonverbal communication (Dittrich et al., 2016; LeBaron et al., 2016) and the timing of situated actions relative to the availability of information within organizational time boundaries (Turner & Rindova, 2018).

As with Winter et al. (2006), we do not reject the codified knowledge of the project life cycle as a representational form, but in asking the research question: How are routines re-created through life cycle stage transitions in a project organization, our five-stage process model of transitioning shows how practitioners re-create patterns of action, combining the constraints of predefined clock-time markers and information available to make judgments in dynamic settings.

**Limitations and Further Research**

As an autoethnographic study of a single case study and a single life cycle stage transition, we recognize the limitations this brings in terms of data collection within such large and complex projects. We would argue, however, that the methodology developed here contributes to more recent efforts to develop forms of engaged scholarship both in project management and organization and management theory more generally (Van de Ven, 2007; van Marrewijk &
Dessing, 2019). We also propose that the study fits with Geraldi and Söderlund’s (2018) Level 2, Type 2 project studies, and responds to calls from routines scholars for further understanding the spatiotemporal nature of routines (Howard-Grenville & Rerup, 2017).

By identifying the generative mechanisms involved in re-creating patterns of action in the transition through project life cycle stages, we suggest that our model has generalizability in its application to understanding the project life cycle. The model could be applied and tested in other cases and on other stages of a project life cycle. With temporary organizing becoming more prevalent in society (Lundin et al., 2015), the recent reawakening of the concept of liminality in management and organization studies (Söderlund & Borg, 2017; van den Ende & van Marrewijk, 2014) and infrastructure projects involving what have been described as multiple temporalities (Brookes et al., 2017), understanding more of the spatiotemporal nature of transitions may be beneficial for the study of both project and other organizations.

If the knowledge of the processual relationship between different event sequences are used to manage risk and uncertainty, we may be able to better understand the relational (coordination) and transactional (cooperation) uncertainties between participants, which Söderlund (2012) and Jones and Lichtenstein (2008) suggest are two key challenges involved in project organizing. Therefore, transitions may be an effective place for bringing participants together to re-create routines, rather than a place where disruption takes place. We may then use these stage-gate transitions less as a process of performance control and more in developing project capabilities (Zerjav et al., 2018).

We also suggest that conceptualizing projects as predefined time-bound temporary organizations offers a unique context for studying how routines come into being, are enacted and terminated, and form the building blocks of project and dynamic capabilities (Davies & Brady, 2016). A starting point for this may be in further understanding the typology of routines
in project organizations by building on those found in this study, understanding the influence
of unique and repetitive tasks on patterns of action in temporary organizations (Hærem et al.,
2015), the interorganizational nature of temporary organizations (Sydow & Braun, 2018), the
interplay between verbal and nonverbal communication in processing information (Dittrich et
al., 2016; LeBaron et al., 2016), the networked nature of routines in the governance of projects
(Sleen et al., 2018), and finally, understanding the role of time, as experienced by participants
in relation to objective clock time and activity sequencing (Orlikowski & Yates, 2002; Turner
& Rindova, 2018).

In today’s world, the pace of change and the context of work is becoming more complex,
uncertain, and dynamic. While the project life cycle is a model that can help to organize work
and process information, our ability to understand how participants’ perceptions of time and
space influence the re-creation of patterns of action becomes an ever more important area of
study.
Bibliography


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